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C. R. Chu
Illinois Institute of Technology
Technology Center
Chicago 16, Illinois
CAlumet 5-9600, Ext. 747

CHICAGO, ILL., JULY 3, 1961 -- Groundbreaking ceremonies at 33rd and Dearborn Sts., will take place Weds., July 5, to mark the beginning of construction of a new John Crerar scientific library. The new building will be of modern design consistent with neighboring Illinois Institute of Technology buildings and is scheduled for completion in late summer of 1962.

H. P. Sedwick, president of the John Crerar library and John T. Rettaliata, Illinois Tech president, will represent the Crerar library and Illinois Institute of Technology, respectively, at the ceremonies. Other Crerar directors and school officials will also be in attendance.

In relocating the 66-year old library on Illinois Tech campus property, Crerar authorities have culminated a five year search to better serve the public by finding a central location with convenient public transportation and parking facilities. The John Crerar library, open to the public without charge, has become one of the leading libraries of the world devoted to the sciences, engineering and medicine.

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The new building, designed by the architectural firm of Skidmore, Owings and Merrill, has been functionally planned to meet modern needs for effective library service. It will be two stories in height and 160 by 288 feet, with a total area of 92,160 square feet. The roof is of cantilever construction to provide maximum flexibility in use of space on the second floor. The entire building will be air conditioned.

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Armour Research Foundation
of Illinois Institute of Technology
Institute of Gas Technology

For further information on this release, contact:

James Stathas
CAlumet 5-9600, Ext. 746

CHICAGO, ILL., July 13, 1961 -- Illinois Institute of Technology has been awarded a $40,000 Esso Education Foundation grant to support an In-Service Fellowship program for 50 science and mathematics high school teachers during the 1961-62 academic year, it was announced today by Dr. John T. Rettaliata, Illinois Tech President.

The Esso funds will provide the teachers with tuition scholarships to take standard graduate courses in science and mathematics, and will reimburse them for money spent for travel and meals, according to the program's director and originator, Dr. Haim Reingold (7541 S. Clyde ave., Chicago), chairman of the IIT mathematics department.

Because fellowship recipients pursue programs of study in either Illinois Tech's evening division or summer school, they need not take leaves of absence from their teaching positions. The Esso fellowships are available to experienced teachers and to recent graduates.

The Illinois Tech program is the only one of its kind in the country which is supported by a private organization. One of its primary objectives, Reingold said, is to set an example for local boards of education to follow.

Supporting the Esso Education Foundation are Standard Oil Co. (New Jersey), and its affiliated companies: Esso Research and Engineering Co., Humble Oil & Refining Co., Interstate Oil Pipe Line Co., Jersey Production Research Co., and Esso International, Inc.

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James Stathas
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OR RELEASE: Immediate

CHICAGO, ILL., July 24, 1961 -- 1961 engineering graduates of Illinois Institute of Technology received an all-time high in average beginning salaries, earning approximately 5 per cent more than their counterparts in 1960, according to E. C. Kubicek, IIT director of placement and alumni relations.

The newly graduated engineer started to work for an average salary of $550 a month, compared with a $525 average the year before. The beginning metallurgical engineer led the salary field this year, earning an average of $590, a full $70 more than in 1960, Kubicek said.

Income averages varied according to specialized fields. Electrical engineers received $566 per month this year, compared with $544 last year; chemical engineers $548 against $530 last year; industrial engineers $542 against $493; mechanical engineers $537 against $520; and civil engineers $531 against $510.

Kubicek stated that these averages were reached through analysis of 2,300 personal interviews arranged by the Illinois Tech placement office between members of the classes of January and June, 1961, and representatives of 325 companies.

The electrical machine industry was first job choice of the recent graduates, Kubicek said. Graduate work placed second, continuing the upward trend of advanced study by IIT BS degree holders. Many 1961 graduates were attracted to the fields of utilities, aerospace transportation farm, construction and mining machinery, metalworking and specialties, food and kindred products, and office equipment machinery, he remarked.

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Kubicek added, "Today's graduate has a truly wide choice of the finest of American industry when companies send their representatives across the country to present a personalized picture of employment with their organization."

Represented on the Illinois Tech campus during the fall and spring interviewing seasons were companies from half the states in the Union, including California, Colorado, Connecticut, Delaware, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, New Mexico, New York, Ohio, Pennsylvania, Tennessee, Texas, West Virginia, Virginia, and Washington, D. C.

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OR RELEASE: Immediate

CHICAGO, ILL., July 25, 1961 -- Through the award of a National Science Foundation grant, 95 high school teachers are currently studying mathematics and physics in a summer course of study at Illinois Institute of Technology.

The course, brought about by a growing concern over the quality of instruction in mathematics and science, is aimed at revitalizing those fields of study. More than 40 of the 95 instructors enrolled represent Chicagoland high schools. Others come from schools located across the country.

According to the summer institute's director, Dr. Haim Reingold, professor and chairman of the IIT mathematics department, the eight-week program's goals are threefold: to generate higher levels of mathematics and science teaching in the secondary schools; to develop increased teacher competence; and to aid teachers in attaining additional levels of qualification.

Reingold also stated that the mathematics and physics programs, which were first offered in 1959, were expanded in 1960 and again this year, so that both former and new participants are being accommodated.

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James Stathas
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R RELEASE: Immediate

CHICAGO, ILL., July 26, 1961 --

is a member of a select group of secondary school teachers attending a special program of study at Illinois Institute of Technology aimed at revitalizing high school instruction in mathematics and science.

One of 95 high school instructors participating in the program, is attending the summer institute through a National Science Foundation grant awarded to Illinois Tech, which the school in turn uses to support teachers attending the institute.

The goal of this special program of summer study at IIT is threefold: to generate higher levels of mathematics and science teaching in the secondary schools; to develop increased teacher competence; and to aid teachers in attaining additional levels of qualification.

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Myron T. Noar
CAlumet 5-9600
Ext. 744

OR RELEASE: JULY 30, 1961

CHICAGO, ILL., July 30 -- A mechanical olive harvester is being developed by the Armour Research Foundation of Illinois Institute of Technology in an accelerated program to help America's olive-growers meet the increasing competition of foreign imports, it was reported today.

Being made for the Olive Advisory Board of San Francisco, Cal., the device will speed up the harvesting process and will increase the overall efficiency by resulting in greater yields per tree, according to Seymour Bazell, ARF design engineer.

Described by Bazell as a radically different method of mechanical harvesting, the program has been stepped up so that a prototype of the device can be tested in September for the current crop.

Depending upon its effectiveness in solving the olive-picking problem, the Armour Research Foundation plans to investigate the possibility of using the innovation for harvesting other types of fruit, Bazell said.

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OR RELEASE: IMMEDIATE

CHICAGO, ILL. -- A pair of nuclear scientists from the Armour Research Foundation of Illinois Institute of Technology were named committee chairmen for the 1961 national winter meeting of the American Nuclear Society to be held November 7 to 9 in Chicago.

Charles W. Terrell was named chairman of the registration committee, and Raymond C. Barrall will head the student program, according to John L. Kurnz, general manager of the ANS winter meeting.

Terrell is the supervisor of reactor operations in the physics research division of Armour Research Foundation. A native of Louisville, Ky., he received his Master's degree in nuclear engineering from North Carolina State College. He is also a member of the American Society of Mechanical Engineers, Institute of Radio Engineers, and the American Institute of Physics. Terrell and his wife reside in Chicago.

Barrall is chief health physicist at the Foundation, also in the physics research division. He hails originally from West Nanticoke, Pa., and received his Master's degree from the University of Rochester. He is also a member of the Health Physics Society. Barrall and his family are currently living in Oak Lawn, Ill.

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James Stathas
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OR RELEASE: Immediate

CHICAGO, ILL., July 31, 1961 -- Illinois Institute of Technology has received an institutional grant of $4,497 from the National Science Foundation to supplement existing budgets for the Institute's various research and research training programs. This award, in contrast to other NSF grants for specific research projects, may be used by the school to help support any of its general research functions.

According to Dr. J. C. Boyce, Illinois Tech academic vice president, "This grant is warmly welcomed because it is aid which IIT will utilize to help defray ever-increasing expenses incurred in the institute's numerous projects. The high cost of research today is a problem with which all institutions of higher learning are confronted."

The amount awarded represents five percent of the payments NSF has granted to IIT during the first nine months of previous fiscal year in support of specific research projects.

Since its establishment by Act of Congress in 1950, the National Science Foundation has awarded grants for specific research endeavors in the basic sciences. The Foundation has recently recognized the need for some more general support to aid the colleges and universities of this country, and has initiated this experimental program of awarding institutional grants. These grants, used by the school to round out its research programs, are meant to supplement rather than replace present institutional commitments.

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R RELEASE: IMMEDIATE

7-31-61

CHICAGO, ILL. -- Requirements and problems pertaining to the Department of Defense Electromagnetic Compatibility program will be main topics on the program of the Seventh Conference on Radio Interference Reduction and Electronic Compatibility.

Conducted by the Armour Research Foundation, the conference will be held on the Campus of the Illinois Institute of Technology on November 7, 8, and 9.

Sponsored jointly by the three military services, the conference is conducted in cooperation with the Institute of Radio Engineers' professional group on radio frequency interference.

With emphasis placed upon the analysis requirements of the DOD Electromagnetic Compatibility Analysis Center being implemented at Annapolis, Md., the program will attract representatives from government and industrial activities, both at the practical and more technical levels.

Included in the program will be sessions on electromagnetic compatibility analysis, design and measurement techniques, data processing and display methods, interference prediction techniques, and practical interference control and reduction. Civilian as well as military interference problems will be included in the program. A one-day session for presentation of classified papers is being planned.

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Herbert M. Sachs, ARF assistant director of the electromagnetic compatibility facility is the conference chairman.

Inquiries regarding the conference should be addressed to William McGee, Conference Secretary, Armour Research Foundation, 10 West 35th St., Chicago 16, Ill.

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)R RELEASE: IMMEDIATE

CHICAGO, ILL. -- A well-known pioneer in space technology and a computer information theory expert will be featured luncheon speakers at the 1961 Computer Applications Symposium in Chicago on October 25 and 26.

Dr. Simon Ramo, executive vice president and director of Thompson Ramo Wooldridge, Inc. will address the first day's luncheon meeting. He will be discussing the significance of "Man Machine Communications in the Coming Technological Society."

The speaker at the second luncheon meeting will be Dr. Robert M. Fano who will cover "Digital Computers in Communication Engineering." Fano is professor of electrical communications in the Department of Electrical Engineering, and Lincoln Laboratories of the Massachusetts Institute of Technology.

The Computer Applications Symposium is sponsored by the Armour Research Foundation of Illinois Institute of Technology, and will be held at the Morrison Hotel, Chicago. The program of the symposium covers business and management as well as scientific and engineering computer applications. The conference will stress user experience in application and programming techniques.

Inquiries concerning the conference should be addressed to Benjamin Mittman, symposium program chairman, Armour Research Foundation, 10 West 35th St., Chicago 16, Ill.

-more-

Add 1 - CAS Speakers

BIOGRAPHICAL DATA

Dr. Simon Ramo: Executive vice president and director of Thompson Ramo Wooldridge, Inc.; former president of Space Technology Laboratories, Inc.; served as scientific director of the Air Force ballistic missile program for the Atlas, Titan and Thor missiles; Ph.D. degree in electrical engineering and physics from California Institute of Technology in 1936; author of numerous articles and books and is holder of 25 patents; fellow of American Institute of Electrical Engineers, American Physical Society, American Rocket Society, and Institute of Radio Engineers.

Dr. Robert M. Fano: Professor of electrical communications in the Electrical Engineering Department of the Massachusetts Institute of Technology; member of the steering committee of the Center for Communication Sciences in the Research Laboratory of Electronics; group leader of Lincoln Laboratory and staff member of the Radiation Laboratory; attended School of Engineering of Torino, Italy; Sc.D. degree from the Massachusetts Institute of Technology.

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OR RELEASE:

IMMEDIATE

CHICAGO, ILL. -- John M. Neff, assistant director of metals and ceramics research at the Armour Research Foundation of Illinois Institute of Technology has been appointed to the Materials Advisory Board of the National Academy of Sciences, it was reported today.

In making the announcement, Augustus V. Kinzel, chairman of engineering and industrial research for the national academy, said Neff is one of the first scientists from the Chicago area to be appointed to the Board.

Neff is a leading expert on aggregates for clay brick and lightweight concrete block. He holds U. S. patents on methods and apparatus for producing unicellular spherialized clay products.

Neff is a graduate of Ohio State University where he earned his M.S. degree in mineralogy in 1942.

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OR RELEASE: IMMEDIATE

CHICAGO, ILL. -- A sharp increase in dustfall in the Loop for June this year contributed greatly to a 24 per cent increase over June 1960 in Chicago's average total dustfall, according to research engineer, Samuel Radner, of the Armour Research Foundation of Illinois Institute of Technology.

With a Loop average exceeding 112 tons per square mile, the overall Chicago average reached 39.4 tons as compared to the 31.9 tons recorded during the same period last year. The June average was slightly less than the 40.8 ton average recorded in May.

The two lowest readings for June were at the station at 1620 W. 99th St., 16.3 tons; and at 7350 Pratt Ave., 20.9 tons. The reading at Elmhurst increased to 19.7 tons as opposed to the 14.3 tons recorded last June. The Park Forest reading was 16.7 tons.

It is interesting to note that the readings at the eleven recording stations located along the shore showed an average decrease of 57 per cent in total dustfall over June of last year, while the total hours of Easterly winds (coming off the lake) increased over last year. June 1960 had 208 hours of Easterly winds, while 330 hours were recorded this year. This is shown in the Table.

-more-

Add 1 - June Dustfall

	June 1960			June 1961		
	Wind Hours	TDF	NC	Wind Hours	TDF	NC
Easterly Winds	330	-	-	208	-	-
Remaining Winds	382	-	-	499	-	-
City Average (Loop included)	-	31.9	12.3	-	39.4	16.4
Loop Average	-	33.0	14.1	-	112.4	58.0
11 Shore Stations Average	-	34.7	15.3	-	55.0	26.0

Note: TDF is Total Dustfall
NC is Non-combustible, water disoluble

Here are the readings for May and June of this year and June of 1960 as recorded at the 24 collecting station in the city.

CHICAGO TOTAL DUSTFALL
Trends by Station
June, 1961

		Readings in tons per square mile		
Ward No.	Station Address	June 1961	May 1961	June 1960
1	State and Adams	119.4	70.0	24.3
1	33 N. LaSalle	105.4	69.5	41.8
	Loop Average	112.4	69.7	33.0
1	2135 S. Michigan	38.9	48.8	31.5
4	825 E. 44th	40.5	33.8	47.5
5	1362 E. 59th	30.5	25.8	41.8
7	7531 Stony Island	58.3	81.1	35.7
9	67 W. 113th Pl.	27.1	36.6	33.5
10	8858 Marquette	58.2	66.7	37.0
13	3105 W. 63rd	48.5	55.4	27.1
13	6140 S. Melvina	43.0	40.1	35.0
17	7559 Eggleston	31.1	31.7	23.8
19	1620 W. 99th	16.3	19.1	19.4
22	3608 Ogden	31.5	29.2	41.1
26	1500 W. Monroe	47.1	44.8	33.4
30	5055 Fulton	29.4	38.1	34.9
32	2940 W. Cortland	28.4	43.3	29.1
36	5602 Belden	23.8	26.7	27.0
40	3944 N. Sawyer	27.2	26.9	28.9
41	7350 Pratt	20.9	23.1	12.9
42	54 W. Hubbard	59.1	55.1	36.4
44	551 Grant Pl.	38.3	40.0	24.4
46	3532 Sheffield	35.5	36.8	26.6
49	1622 Pratt Blvd.	21.3	23.9	35.3
12	2240 W. 37th	40.2	41.7	37.4
	Averages (including Loop)	39.4	40.8	31.9

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For further information on this release, contact:

Myron T. Noar
CAlumet 5-9600, Ext. 744

CHICAGO, ILL. -- Major General John B. Medaris (ret.), former commander of the U.S. Army Ballistic Missile Agency at Huntsville, Ala., will be the banquet speaker at the New Trends in Chemistry Conference to be held at the Hotel Sheraton Towers in Chicago on October 11-12. The conference is sponsored by the Armour Research Foundation of Illinois Institute of Technology in conjunction with Chemical Engineering magazine.

Speaking at the October 11 banquet, Medaris, now president of the Lionel Corporation, will point out the significant problems encountered in conducting research programs. Considered one of the nation's leading experts on the organization and development of research programs, Medaris will discuss the vital role research has played in accelerating the pace of American technology.

Prior to his retirement from active military service last year, Medaris directed all Army Ordnance programs in the rocket, guided and ballistic missiles, and outer space fields. He activated the Army Ballistic Missile Agency in 1956, and managed the development and production of the Redstone and Jupiter missile systems.

Medaris earned national prominence in 1960 with the publication of his controversial book, "Countdown to Decision".

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FOR RELEASE:

IMMEDIATE

CHICAGO, ILL. -- Representatives from many of the nation's top industries will meet in Chicago to attend a series of Seminars on Assembly Line Problems at the Armour Research Foundation of Illinois Institute of Technology on August 15, 16, and 22.

The series of Foundation-sponsored meetings is the first organized approach toward solving the production problem that has stymied manufacturing people since Henry Ford initiated the first assembly line over 50 years ago; and that is, how to efficiently balance a production assembly line.

As a product moves down an assembly line, each operator performs his share of the allotted work. This process of spreading the work among operators is known as line balancing, it was explained by Albert K. Hawkes, ARF supervisor of computer applications and operations research.

"Many of today's progressive assembly lines waste from 10 to 25 per cent of the worker's time," Hawkes went on to say. "More efficient balancing will minimize the amount of workers' idle time, thus reducing the direct labor costs involved in manufacturing products.

The seminars will cover methods for solving assembly line problems including line balancing, cycle time determination, balance delay, and computer methods.

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A new efficient method for assembly line balancing developed by Armour Research Foundation will be introduced and demonstrated using complex industrial balancing problems.

Recognizing the need for a cooperative effort to solve the age-old problem of balancing, ARF researchers conceived the seminar approach, and observed its effectiveness during previous conferences held at the Foundation in June.

"The outstanding advantage of this seminar approach," Hawkes concluded, "is that it brings together the businessmen and production people responsible for assembly line efficiency, and the scientists and researchers who develop the methods for solving assembly line problems."

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Myron T. Noar
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OR RELEASE: IMMEDIATE

CHICAGO, ILL. -- Increasing U. S. production through more efficient assembly line balancing was cited by a Chicago scientists, as a means for American industry to meet the growing competition of goods from cheap foreign labor markets.

Addressing a group of manufacturing representatives from top U. S. industries attending seminars on assembly line balancing, Dr. Maurice D. Kilbridge stated that many of today's progressive assembly lines waste from 10 to 25 per cent of the worker's time. Kilbridge is a consultant of the Armour Research Foundation of Illinois Institute of Technology.

Today's seminar was the first of a series of three sponsored by the Foundation that has brought together some of the nation's top industries in the first organized effort to solving assembly line problems.

Introduced by scientists of the Armour Research Foundation was a new method for balancing assembly lines; one which can be used for practically all types of assembly lines, and can be placed into operation by plant engineers and industrial engineers.

Described as the first successful method since 1910 when Henry Ford instituted the first assembly line, the ARF method cuts down idle workers' time, and consequently cuts direct labor costs involved in manufacturing products, according to Kilbridge.

Through the trial and error methods used until now, unbalanced assembly lines have cost American industries millions of

dollars annually, Kilbridge said. He went on to cite examples in automotive assembly lines where unbalanced assembly lines cause inefficiencies of up to 30 per cent. The ARF system, he says, will reduce imbalance to as low as 10 per cent in automotive lines.

Key factors in any progressive assembly line hinge on the nature of the work and the timing for each assembly stage. In the new system, all that are required are simple mathematical calculations in order to balance the line, regardless of the complexity of the assembly line.

To renovate or rebalance a line, the engineer adds up all assembly-stage working times used to make a total unit. Then he divides this figure by the number of workers. The average is an average cycle time for each station.

Next, he subtracts the actual working time for each operation from the average cycle time. The difference between these figures yields the first clue as to which workers are overloaded. It also helps to pinpoint the slackers.

Additional seminars are scheduled for August 16 and 22.

Some of the industrial firms attending the seminars are: Beech Aircraft Corp.; Brown Shoe Co.; Carrier Corp.; Ford Motor Co.; B. F. Goodrich Co.; Mack Trucks, Inc.; Motorola, Inc.; Texas Instruments Co.; Remington Rand; Magnavox Co.; Caterpillar Tractor Co.; Minnesota Mining and Manufacturing; Radio Corporation of America; Western Electric Co., Inc.; Westinghouse Electric Corp.; Zenith Radio Corp.; and Sunbeam Electric Co.

% OF STANDARD

Dr. Maurice D. Kilbridge (left), Armour Research Foundation consultant, explains the new method of balancing assembly lines to W. B. Scott, vice president of manufacturing for Motorola, Inc., and D. W. Thomas, manager of industrial engineering for the Ford Motor Co., as Dr. Leon Wester, Foundation researcher (right) looks on. Kilbridge and Wester developed the new system which was introduced to the nation's top industries at Foundation-sponsored seminars on assembly line problems.

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For further information on this release, contact:

James Stathas
CA 5-9600, Ext. 746

CHICAGO, ILL., August 18, 1961 -- Dr. Thomas E. Hogan (681 Brookwood dr., Olympia Fields), has been named Dean of Students at Illinois Institute of Technology, it was announced today by Dr. John T. Rettaliata, IIT president.

Hogan, now an associate professor of economics at Illinois Tech, will assume his new duties Sept. 1. He joined the IIT faculty in 1946 as a lecturer in economics.

During World War II, Hogan was principal economist of the National War Labor Board in Washington, D.C., and was also assistant branch chief of the Wage Stability Division. In 1946 he was appointed economic advisor to the National Wage Stabilization Board.

Currently director of the Indian Steel Training and Educational Program at Illinois Tech, Hogan received his bachelor's and master's degrees from the University of Washington, and received his doctorate from the University of Wisconsin in 1949.

Hogan is an active member in the American Economic Association; American Statistical Association; American Arbitration Association; and the Midwest Economic Association.

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For further information on this release, contact:

James Stathas
CA 5-9600, Ext. 746

R RELEASE:
Immediate

CHICAGO, ILL., August 21, 1961 -- Thirty U. S. and Canadian college engineering teachers are currently attending the Illinois Institute of Technology summer institute on mechanics. The program, made possible by a $40,000 National Science Foundation grant, is directed by Dr. Peter Chiarulli (810 Woodbine, Oak Park), professor and chairman of the Illinois Tech mechanics department.

According to Chiarulli, the objective of the summer institute is to give college teachers of engineering a firm grasp of the fundamental principles of physics and mechanics, which are the bases of the engineering subjects taught by these instructors. Chiarulli stated, "It is expected that these 30 college teachers will return to their campuses better able to appreciate the underlying bases of their engineering teaching and hence be better educators."

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8/21/61

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For further information on this release, contact:

Myron T. Noar
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RELEASE: IMMEDIATE

CHICAGO, ILL. -- Addresses by a former Army space research expert and a State Department technical advisor highlight the program of the New Trends in Chemistry Conference which was released today. Co-sponsored by the Armour Research Foundation of Illinois Institute of Technology and Chemical Engineering magazine, the conference will be held at the Hotel Sheraton Towers in Chicago October 11-12.

Major General John B. Medaris (ret.) former commander of the Army Ballistic Missile Agency at Huntsville, Ala., and now president of the Lionel Corporation will speak at the banquet on October 11.

The keynote speaker for the conference will be Dr. John Turkevich, technical advisor to the U.S. State Department and professor of chemistry at Princeton University.

Thirteen papers dealing with developments in various fields of chemistry will be presented at the conference which will deal with specific technologies and specific problems in related disciplines.

Inquiries regarding the New Trends in Chemistry Conference should be addressed to: William Magee, Conference Secretary, Armour Research Foundation, 10 West 35th St., Chicago 16, Ill.

-more-

Program for New Trends in Chemistry Conference

Morning Session, October 11, 1961

PLASMA AND HIGH TEMPERATURE CHEMISTRY
John L. Margrave, University of Wisconsin

HIGH-PRESSURE CHEMISTRY
Robert H. Wentorf, Jr., General Electric Company

Afternoon Session

SOLID-STATE CHEMISTRY
F. Schossberger, Armour Research Foundation

INORGANIC COMPLEXES
Arthur E. Martell, Illinois Institute of Technology

NONAQUEOUS CHEMISTRY
Dr. Joseph J. Katz & Irving Sheft, Argonne National Laboratories

Evening Banquet

GUEST SPEAKER
Major General John B. Medaris (ret.), USA
President, The Lionel Corporation

Simultaneous Morning Sessions, October 12, 1961

KEYNOTE SPEAKER
Dr. John Turkevich
Professor of Chemistry, Princeton University

Morning Session 1

CHEMICAL KINETICS
Martin Kilpatrick, Argonne National Laboratories

CHEMICAL THERMODYNAMICS
Ralph J. Tykodi, Illinois Institute of Technology

CATALYSIS
Vladimir Haensel, Universal Oil Products

Morning Session 2

INORGANIC POLYMERS
Gerhardt Barth-Wehrenalp, Pennsalt Chemicals Corporation

-more-

HIGH POLYMERS
H. F. Mark & S. M. Atlas, Polytechnic Institute of Brooklyn

ORGANIC SEMICONDUCTORS
Herbert A. Pohl, Princeton University

Afternoon Session

RADIATION CHEMISTRY
Paul Y. Feng, Armour Research Foundation

ION-EXCHANGE RESINS AND MEMBRANES
Harry P. Gregor, Polytechnic Institute of Brooklyn

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R RELEASE: IMMEDIATE

8/22/61

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NEW AIR FORCE COMMUNICATIONS INTERFERENCE MEASURING SATELLITE CONTRACT TO ARMOUR RESEARCH FOUNDATION

CHICAGO, ILL.--A new Air Force contract to develop instrumentation for measuring man-made microwave frequency interference encountered by space vehicles and communication satellites has been awarded to the Armour Research Foundation of Illinois Institute of Technology, it was reported today.

The $429,384 contract was awarded by the Aeronautical Systems Division of the Air Force Systems Command at Wright-Patterson Air Force Base.

In making the announcement, Dr. Haldon A. Leedy, director, stated that Foundation's development will be part of a future Air Force microwave frequency interference measuring satellite which will help in the selection of frequency bands for future space communications/electronics systems.

When placed into orbit, the delicate electronic instrumentation will measure the electromagnetic environment in outer space, Leedy explained.

The program is aimed at providing manned satellites and space vehicles with reliable and safe communications/electronics equipment under an adverse frequency interference environment, Leedy went on to say. It is, therefore, necessary to obtain actual data on frequency distribution and power density of man-

-more-

made interference encountered at extremely high altitudes.

Man-made interference is created by such equipments as high powered radars which send microwave energy into outer space, Leedy explained.

The accurate measurment of the interference environment will assist to a great extent in the design of communications electronics systems for future spacecraft and satellites, and in selecting frequency bands for telemetering devices, and world-wide television when proposed communications satellite systems become a reality, Leedy concluded.

Work on the new contract is being carried out in ARF's Electronic Research Division under Joseph Faraone, supervisor of communications and radar.

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8-24-61

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For further information on this release, contact:

Conrad E. Locander
CA 5-9600, Ext.745

R RELEASE: IMMEDIATE

COMPUTER PROGRAM SET

CHICAGO, ILL. - Increasing applications of electronic data processing for aerospace projects, medical science, industry and education highlight the program of the 1961 Computer Applications Symposium which was released today.

Sponsored by the Armour Research Foundation of Illinois Institute of Technology, the symposium will be held in Chicago at the Morrison Hotel on October 25-26.

The Wednesday session of the two-day symposium will stress computer applications for business and management featuring a luncheon address by Dr. Simon Ramo, space technology pioneer and computer information theory expert, who will discuss communications between man and machine in the technological society.

The Thursday session on applications to science and engineering will host Dr. Robert M. Fano, professor of electrical communications, Massachusetts Institute of Technology and Lincoln Laboratories who will discuss the use of digital computers in communications engineering.

Covering the use of computers in business and management as well as science and engineering, the conference will stress user experience in application and programming techniques.

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Conference inquiries should be addressed to Benjamin Mittman, symposium program chairman, Armour Research Foundation, 10 West 35th Street, Chicago 16, Illinois

1961 COMPUTER APPLICATIONS SYMPOSIUM PROGRAM

Wednesday, October 25

Business and Management Applications

Session Chairman:

Charles A. Phillips
Office of the Assistant Secretary of Defense

Management of Records in a Large-scale Collaborative Research Program (Honeywell 800)
Bernard H. Kroll
National Institutes of Health

A Method for Systematic Documentation--Key to Improved Data Processing Analysis
Orren Y. Evans
International Business Machines Corporation

Automation of Library Operations
Louis A. Schultheiss
University of Illinois

Luncheon Address:

Man-Machine Communication in the Coming Technological Society
Dr. Simon Ramo
Thompson Ramo Wooldridge Corporation

The Coming Impact of Computers on Advertising
Edward F. Andresen
Ted Bates and Company

Computer Techniques in Assembly Line Balancing
David I. Scheraga
General Electric Company

-more-

BuWeps PERT-Milestone System--A Tool for Program Management
Yukio Nakayama
Bureau of Naval Weapons

Panel Discussion
Session Charimen and Speakers

Thursday, October 26

Scientific and Engineering Applications

Session Chairman:
Robert P. Rich
The Johns Hopkins University

Real-time Control for Project Mercury (IBM 7090)
James Donegan and Calvin Packard
Goddard Space Flight Center

The Progress of ALGOL in Europe
Peter Naur
Regnecentralen
Copenhagen, Denmark

Scientific Applications for the UNIVAC LARC
Cecil E. Leith, Jr.
Lawrence Radiation Laboratory

Luncheon Address:

Digital Computers in Communication Engineering
Dr. Robert M. Fano
Massachusetts Institute of Technology

Automatic Programming for Numerically Controlled Tools - APT III
Edgar A. Bates
General Dynamics/Convair

Medical Diagnosis Aided by Digital Computers
Robert S. Ledley
National Biomedical Research Foundation

CLASS--the Automated Classroom (Philco 2000)
Donald Englund
System Development Corporation

Panel Discussion
Session Chairmen and Speakers

from

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For further information on this release, contact:

James Stathas
CA 5-9600, Ext. 746

R RELEASE: Immediate

CHICAGO, ILL., August 24, 1961 — Dr. William R. Niebel has been appointed an instructor of English in the Illinois Institute of Technology department of language, literature, and philosophy, effective Sept. 1, it was announced today by Dr. John T. Rettaliata.

Winner of the Conroy Memorial Award in English while a student at Loyola University, Niebel received his bachelor's degree from Loyola in 1957, and received both his master's and doctor's degrees from Northwestern University in 1958 and 1961, respectively.

Niebel resides at 1057 N. Laramie ave.

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For further information on this release, contact:

James Stathas
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OR RELEASE: Immediate

CHICAGO, ILL., August 25, 1961 -- Registration for the fall semester at Illinois Institute of Technology will begin September 11 for students who have not pre-registered.

Undergraduates enrolling in the evening division will register September 11 and 12, from 6 p.m. to 8 p.m. Evening division graduate students will register September 14, from 6 p.m. to 8 p.m.

Day division undergraduate registration will be September 15, beginning at 8:15 a.m. for freshmen, and from 10 a.m. to 11:30 a.m. for others. Graduate students in the day division register September 13, from 9 a.m. to 11 a.m.

Deadline for late registration for day division students is September 22; for evening division students, September 29.

All classes begin Monday, September 18.

Further information about Illinois Tech's fall semester may be obtained from the Registrar, Illinois Institute of Technology, 3300 S. Federal, Chicago 16.

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August 30, 1961

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Institute of Gas Technology

For further information on this release, contact:

Myron T. Noar
CA 5-9600, Ext. 744

OR RELEASE: IMMEDIATE

CHICAGO, ILL.-- A new high temperature solar cell being developed for the Army Signal Corps under a $56,500 contract to a Chicago research organization should increase the reliability of communications and telemetering systems on U. S. satellites.

Scientists at the Armour Research Foundation of Illinois Institute of Technology are "growing" crystals of a compound semi-conductor called cadmium teluride which, they say, will outperform the silicon solar cell now being used.

Solar cells are used to convert the sun's energy into electrical power required for satellite communications and telemetering equipment, it was explained by Dr. Robert Robinson, ARF physicist who heads the project.

As satellites enter regions of higher temperatures, the solar cell's ability to convert the sun's energy is greatly reduced, Robinson went on to say. The efficiency of silicon cells, for instance, drops greatly at 200 degrees.

This lack of power is currently compensated by constructing satellites with a greater number of solar cells in order to maintain the power to drive equipments, Robinson pointed out. The Tiros II satellite, for example, uses 9,000 solar cells while the Explorer satellites require about 6,000.

Considerably less cells would be required with the cadmium teluride semi-conductor as its characteristics for energy conversion

-more-

indicate adequate efficiency at high temperatures, which would enhance the reliability of satellite communications and telemetering equipment during all phases of the orbital path, Robinson concluded.

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August 30, 1961

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For further information on this release, contact:

Conrad E. Locander
CA 5-9600, Ext. 745

R RELEASE: IMMEDIATE

SECOND LOWEST JULY DUSTFALL REPORTED

CHICAGO, ILL.-- The second lowest dust fall for July in 14 years was reported by Armour Research Foundation of Illinois Institute of Technology. The lowest reading for July was 29.5 tons per square mile, recorded last year.

Registering an average of 32.9 tons of dust fall per square mile, this year, the July readings are 7% below the average for June, according to Samuel Radner, ARF research engineer.

Chicago's Loop breathed more easily under the July reading of 40.4 tons as compared to the 112.4 tons measured in the Loop for June. A slight increase in easterly winds and longer hours of rainfall are the two main reasons for this drop.

Of the 26 stations located throughout Chicago, the lowest reading (11.6 tons) was recorded at 7350 Pratt Avenue and the highest reading (88.2 tons) at the 8858 Marquette Avenue station.

Projecting the past 25 years of July dustfall at five year intervals shows a definite decrease with the exception of 1946, when an average of 59.7 tons were recorded, Radner said. He estimated the reason for this high was due to the conversion of factories from war-time to peace-time production.

Here are the readings for June and July of this year and June of 1960 as recorded in 26 stations throughout the city:

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Add 1--JD

CHICAGO TOTAL DUSTFALL
Trends by Station
July, 1961

Ward No.	Station Address	Readings in July 1961	June 1961	July 1960
1	State and Adams	44.2	119.4	38.2
1	33 N. LaSalle	36.7	105.4	64.5
	Loop Average	40.4	112.4	51.4
1	2135 S. Michigan	30.5	38.9	24.5
4	825 E. 44th	30.8	40.5	28.9
5	1362 E. 59th	50.2	30.5	25.2
7	7531 Stony Island	34.2	58.3	35.7
9	67 W. 113th Pl.	41.2	27.1	34.2
10	8858 Marquette	88.2	58.2	40.5
13	3105 W. 63rd	25.6	48.5	32.5
13	6140 S. Melvina	22.7	43.0	28.8
17	7559 Eggleston	20.3	31.1	22.5
19	1620 W. 99th	25.6	16.3	13.6
22	3608 Ogden	22.1	31.5	31.4
26	1500 W. Monroe	33.1	47.1	47.2
30	5055 Fulton	23.8	29.4	25.5
32	2940 W. Cortland	23.6	28.4	21.4
36	5602 Belden	15.6	23.8	16.2
40	3944 N. Sawyer	18.7	27.2	31.8
41	7350 Pratt	11.6	20.9	16.7
42	54 W. Hubbard	42.9	59.1	34.8
44	551 Grant Pl.	28.5	38.3	24.9
46	3532 Sheffield	73.0	35.5	41.0
49	1622 Pratt Blvd.	24.7	21.3	21.6
12	2240 W. 37th	29.9	40.2	28.5
Totals		757.2	907.5	
Average (incl. Loop Average)		32.9	39.4	29.5

FOR IMMEDIATE RELEASE

ICAGO, ILL. ---Electric power made without turbines or generators may be supplied to manned ace stations and to underdeveloped areas of the earth using a new fuel cell developed by a icago research organization.

ientists at the Armour Research Foundation of Illinois Institute of Technology say the new ll can directly convert heat to electricity at efficiencies exceeding 50 per cent. The rect conversion eliminates the need for turbines and generators, as the system operates on at from the sun, nuclear sources, or from waste heat sources.

e Foundation cell uses a prepackaged chemical system which can be easily transported to mote areas of the globe or launched to future manned stations on the moon and other planets, cording to Dr. Morton Klein, ARF supervisor of propellant research.

ere are essentially three parts to the Foundation principle, Klein explained. First, the at converts the chemicals for the generation of electricity. During the second step, the ectrical power is taken off while the chemical is cooling. Then, in the third step, por- ons of the spent chemicals are regenerated by the heat source, and they are again avail- le for the generation of electricity.

us, you have the effect of two batteries, Klein pointed out. While one is giving off rrent, the other is being regenerated. Instead of moving batteries around, however, the undation system uses liquid chemical electrodes, whereby spent chemicals are regenerated ile hot chemicals are being discharged and decomposed to give electricity.

king off electricity at one point and regenerating materials at another point results in constant conversion of the heat energy to electricity, Klein said.

e fuel cell principle is not new, according Klein who said that previous cells have attained ficiencies as high as 12 per cent. The 50 per cent efficiency attained by the Foundation is tributed to the constant heating and regeneration of chemicals, so that a minimum amount of e heat available is wasted.

Citing the significance of the ARF development, Klein pointed out that the tremendous amounts of heat given off by nuclear reactors could be converted to electricity. Thus, remote areas of the earth can be supplied with electric power through nuclear energy. And all that would be needed is a few pounds of nuclear fuel each year, as opposed to the hundreds of tons of coal or oil which would have to be flown into underdeveloped areas to maintain large furnaces for driving turbines and generators.

As for space applications, he went on to say, heat energy from the sun can be converted to supply electricity for power, heat, and communications in outer space. It is entirely possible, too, he conjectured, that the earth's desert wastelands can be converted into thriving areas with electricity from the sun's energy to power irrigation pumps and communications, and to light entire cities if necessary.

Myron T. Noar

CA 5-9600, Ext. 744

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For further information on this release, contact:

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FOR RELEASE: Immediate

CHICAGO, ILL., Sept. 1, 1961 -- Two outstanding representatives of the business world will be luncheon speakers at the 17th annual National Conference on Industrial Hydraulics, to be held at the Sherman Hotel, Thursday and Friday, Oct. 19-20. The conference is sponsored by Illinois Institute of Technology in cooperation with ten engineering societies.

Speaker at the Oct. 19 luncheon will be Henry L. Porter, executive secretary, The Society of Sales Training Executives, Chicago, who will talk on "Developing our Human Resources." J. E. Day, president of the Midwest Stock Exchange, will address the luncheon meeting the following day on "The Care and Feeding of a Financial Market."

Attending the conference will be hydraulics engineers from all over the country who will take advantage of this meeting to exchange notes on new developments in their field. At the meeting, technical papers are presented and discussions are held on fundamental as well as applied phases of industrial hydraulics. According to Conference secretary, W. R. Smith, purpose of this meeting is to elevate the general level of technical knowledge in the industrial hydraulics field.

Theme of this year's conference is "Versatility and Reliability of Fluid Power," constituting the framework within which papers are presented and discussions are held.

The NCIH committee also sponsors an educational program in hydraulics at Illinois Tech.

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For further information on this release, contact:

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FOR RELEASE: IMMEDIATE

September 5, 1961

CHICAGO, ILL.--The belief that what you cannot see will not hurt you is costing American industry millions of dollars, according to a Chicago research scientist.

"Manufacturers of critical precision devices are losing that much every year due to inadequate use of white room facilities," said Alvin Lieberman, specialist in the field of air pollution and fine particle control at Armour Research Foundation of Illinois Institute of Technology.

White rooms are super-clean areas where dust free conditions and filtered air enhance efficiency in the manufacture of precision devices. Gyroscopes, potentiometers, photographic film, watches, medical systems and drugs, aircraft and space systems are all manufactured in white rooms, where a microscopic speck of dust can cause failure of a precision instrument.

Lieberman, who is vice president of the American Association for Contamination Control made this statement in conjunction with plans for a meeting of government and industry representatives on September 15. The purpose of the meeting at Armour Research Foundation is to provide information on white room requirements, operation, and specifications for air containment and device containment levels. The gathering and evaluation of data on product performance and industrial containments has been the goal of the AACC.

"If properly maintained, white rooms can lower reject rates

-more-

and save labor and material costs," said Lieberman, who gave the manufacture of gyroscopes as an example.

"One gyroscope maker claims that prior to white room installation 120 reworks were required for every ten gyros built before they passed inspection," he said, adding that after a white room was used only two reworks were required for every ten gyroscopes.

Inquiries regarding the session should be addressed to Alvin Lieberman, Armour Research Foundation, 10 West 35th Street, Chicago 16, Illinois.

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For further information on this release, contact:

James Stathas
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R RELEASE: Immediate

CHICAGO, ILL., September 7, 1961 -- Dr. Lawrence M. Graves has been appointed visiting professor of mathematics at Illinois Institute of Technology for the 1961-62 academic year, it was announced today by Dr. John T. Rettaliata, IIT president.

Graves began his teaching career in 1920 as a mathematics instructor at Washington Univ., St. Louis, Mo. Since then he has been a mathematics professor at the University of Chicago, University of Michigan, Stanford Univ., and Indiana Univ., and has taught in the Institute for Advanced Study.

Receiving his bachelor's degree from Washburn College, Topeka, Kan., in 1918, and his master's and doctor's degrees from the University of Chicago in 1920 and 1924, respectively, Graves also holds an honorary doctor of science degree from Washburn, which was awarded him in 1941.

Graves is author of some 40 mathematics articles and reviews, and has had his works appear in both the Encyclopedia Brittanica and the Encyclopedia of Science and Technology.

The new IIT professor and his family reside at 5765 Blackstone ave.

September 7, 1961

MEMO TO: Science Editors & Writers

REGARDING: 17th annual National Conference on Industrial Hydraulics

DATE: Thursday and Friday, Oct. 19-20.

PLACE: Sherman Hotel, Chicago

Enclosed is the tentative program for the 1961 National Conference on Industrial Hydraulics, to be held October 19-20, at the Sherman Hotel, Chicago. The conference is sponsored by Illinois Institute of Technology in cooperation with eleven engineering societies.

Please let us know which of the technical papers you are interested in and we will send copies to you as soon as they become available. If, however, you do not receive all papers requested, it will be because they were not made available to us. In that event, you may write directly to the papers' authors.

PLEASE NOTE: Publication date should not precede the date the paper is presented. Authors may grant exclusive publication rights if they wish. Permission to reprint any part of a paper must be obtained from its author.

For further information telephone or write:

James Stathas
Public Relations
Illinois Institute of Technology
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For further information on this release, contact:

James Stathas
CA 5-9600, Ext. 746

CHICAGO, ILL., September 15, 1961 -- Dr. Walter S. Fagan (7005 S. Oglesby) has been named a lecturer in chemical engineering at Illinois Institute of Technology, effective Sept. 1, it was announced today by Dr. John T. Rettaliata, IIT president.

Fagan, a 1940 graduate of Austin high school, received his bachelor's, master's, and doctor's degrees from Illinois Tech. He has held scientific posts at the Ordnance Engineering Co., Argonne National Laboratories, and at the American Machine and Foundry Co. Fagan has also taught at Israel Institute of Technology.

Author of several technical papers, Fagan is an active member in the American Society of Mechanical Engineers, and the American Institute of Chemical Engineers.

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For further information on this release, contact:

James Stathas
CA 5-9600, Ext. 746

OR RELEASE:

Immediate

CHICAGO, ILL., September 26, 1961 -- Kenneth V. Henninger has been appointed as Admissions Counselor at Illinois Institute of Technology, it was announced today by Dr. John T. Rettaliata, IIT President.

As Admissions Counselor, Henninger will visit high schools and junior colleges in the Chicago area, to provide information and guidance concerning Illinois Tech's program to students, their parents, and school officials.

After majoring in mathematics at James Milikin University, Decatur, Henninger received his Master's Degree in education administration from the University of Illinois. In addition, he has taken graduate work at the University of Southern California and the University of Minnesota.

His 26 years of educational experience includes positions as teacher, principal, and superintendent in Illinois schools. For the past six years, Henninger has been employed in the industrial personnel field.

Henninger and his wife reside at 717 North Street, Geneva, Illinois.

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OR RELEASE: Immediate

CHICAGO, ILL., September 28, 1961 -- Max R. Schrayer, Chicago insurance executive and experienced fund raiser, will be the main speaker at the annual Kick-Off Dinner of the Illinois Institute of Technology alumni fund drive, which will be held Monday, Oct. 2, at IIT.

The dinner will initiate the Institute's fall fund drive, which entails personal solicitation of Illinois Tech alumni in metropolitan Chicago and its suburbs.

In his talk, Schrayer, senior vice president of Associated Agencies, Inc., will review his background as a fund raiser. He is currently co-chairman of the Combined Jewish Appeal and also has been active in fund-raising drives for Roosevelt University and the University of Michigan, his alma mater.

IIT President Dr. John T. Rettaliata will also address the 150 volunteer fund workers, speaking on the campus development program.

# # # #

September 28, 1961

IMMEDIATE RELEASE

C. E. Locander
CA 5-9600, Ext. 745

AUGUST DUSTFALL RECORD LOW

CHICAGO--The city wide averages of total dustfall for August was 31.4 tons per square mile, a record low for the month according to Samuel Radner, research scientist at Armour Research Foundation of Illinois Institute of Technology. It is 95% of July's record and 95% of readings taken in August, 1960.

The highest readings were at the two Loop stations. The State and Adams Streets station recorded 77.1 tons, while the Washington and La Salle Streets station recorded 122.3 tons. Without the Loop readings the city average was 27.7 tons. Thus, the Loop readings increased the average by 3.3 tons or 12%, according to Radner. Outside the Loop, the highest reading was 45.1 tons at 3532 North Sheffield.

The lowest reading was at 7350 Pratt Avenue with 12.1 tons. This reading is 39% of the city average.

The major difference, weatherwise, was the 6.07 inches of rain that fell this August, of which 2.55 inches were reported on August 1. In contrast, only 1.02 inches of rainfall was reported in August, 1960. The rain factor is difficult to assess using only one official reading. Rainfall varied considerably from the official readings at Midway Airport through the city. O'Hare reported only 1.34 inches, while 7.45 inches were reported at Larame and 40th Street. On August 1, the heaviest rain apparently

-more-

fell on the south side of Chicago, while on August 4, the north side seemed to experience the most rain.

CHICAGO TOTAL DUSTFALL
Trends by Station
August, 1961

Ward No.	Station Address	Readings in August, 1961	July 1961	August 1960
1	State and Adams	77.1	44.2	43.2
1	33 N. La Salle	122.3	36.7	62.4
	Loop Average	99.7	40.4	52.8
1	2135 S. Michigan	32.5	30.5	37.5
4	825 E. 44th	33.0	30.8	44.9
5	1362 E. 59th	23.7	50.2	----
7	7351 Stony Island	27.6	34.2	36.7
9	67 W. 113th Pl.	21.2	41.2	24.9
10	8858 Marquette	38.1	88.2	34.9
13	3105 W. 63rd	30.0	25.6	25.3
13	6140 S. Melvina	36.2	22.7	29.6
17	7559 Eggleston	24.6	20.3	17.2
19	1620 W. 99th	----	25.6	22.9
22	3608 Ogden	29.4	22.1	33.5
26	1500 W. Monroe	41.8	33.1	46.4
30	5055 Fulton	22.5	23.8	29.4
32	2940 W. Cortland	22.8	23.6	47.0
36	5602 Belden	17.3	15.6	30.6
40	3944 N. Sawyer	26.2	18.7	26.5
41	7350 Pratt	12.1	11.6	16.0
42	54 W. Hubbard	31.0	42.9	38.8
44	551 Grant Pl.	25.7	28.5	29.0
46	3532 Sheffield	45.1	73.0	32.9
49	1622 Pratt Blvd.	20.3	24.7	22.6
12	2240 W. 37th	32.7	29.9	28.4
Average (incl. Loop average)		31.4	32.9	32.9

from
LINOIS INSTITUTE OF TECHNOLOGY
35 WEST 33RD STREET TECHNOLOGY CENTER CHICAGO 16, ILLINOIS

October 5, 1961

Public Relations
Serving: Illinois Institute of Technology
Armour Research Foundation
of Illinois Institute of Technology
Institute of Gas Technology

For further information on this release, contact:

Myron T. Noar
CA 5-9600, Ext. 744

R RELEASE: IMMEDIATE

CHICAGO, ILL.--Space-age fuel power was used today to signify the opening of a new $3.7 million chemistry research building at the Armour Research Foundation of Illinois Institute of Technology.

With IIT President Dr. John T. Rettaliata pulling the switch that put into motion a chemical reaction which produced an electrical current from an alcohol lamp sufficient enough to ignite a giant bow composed of micro-cellulose which covered the building entrance. The bow flashed into flame and disappeared.

The fuel cell used was a thermally regenerative type, developed for the U. S. Navy, and one which might some day be used to supply power for manned landings on the moon and other planets.

Included in the new 135,000 square feet building are a well equipped pilot plant area, environmental test chamber, gamma radiation chamber, and laboratory for radioactive materials.

The building also houses the Foundation's research facilities for missile and rocket fuels, and the life sciences area which specializes in cancer and tumor research.

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October 5, 1961

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Institute of Gas Technology

For further information on this release, contact:

Conrad E. Locander
CA 5-9600, Ext. 745

R RELEASE: IMMEDIATE

CHICAGO--The new $3.7 million Chemistry Research and Mechanics Engineering Research Building at Armour Research Foundation was dedicated today, symbolizing a quarter of a century of scientific achievement at the Foundation.

Housing the Chemistry, Mechanics and Fluid Dynamics Research Divisions, the building provides 135,000 square feet of modern floor space for use in fundamental research. Included in the building is a well equipped pilot plant area, environmental test chamber, gamma radiation chamber and laboratory for radio-active materials.

Welcoming the 1,200 guests to the two day celebration, Dr. Haldon A. Leedy, Foundation director, revealed a plan to eventually house all research activities in modern laboratories within a two block area in order to provide better communications and efficiency among the various research departments.

"Dynamic growth has been the keyword at the Foundation since its beginning in 1936 with a staff of three", Leedy said, adding that since then ARF has grown to a community of 1,250 scientists and engineers, increasing its scope to include all phases of the physical sciences and related technologies.

Reaching the half way mark in a 10-year ARF building program, four major new buildings have been erected at ARF in the past five years at a cost of $8 million. An additional $5 million has been spent for modern research equipment.

Demonstrations of the latest equipment, research projects and apparatus will be shown guests as they tour the new building today and tomorrow. Explanations of the functions and applications of research in Mechanics, Chemistry and Fluid Dynamics will highlight the discussions of the many research projects undertaken at ARF since its founding in 1936.

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SPACE
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Evaporation
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THE CHALLENGE OF SPACE
ARE SCIENTISTS
VS. THE PROBLEMS
ACT OF METEORS
HOW DO WE PROTECT THE SPACECRAFT
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Radiation Levels
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For Combustible Case Ammunition
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and
CARTRIDGE, BALL, 30MM, T354
ARMOUR RESEARCH FOUNDATION OF
ILLINOIS INSTITUTE OF TECHNOLOGY

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ctober 13, 1961

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For further information on this release, contact:

Myron T. Noar
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OR RELEASE: PM Papers, October 13
AM Papers, October 14

SAN JUAN, Puerto Rico, October 13--America's independent research organizations are contributing significantly to this country's technological leadership by providing scientists with an atmosphere of creativity in which to carry on their work, a group of top science research leaders meeting here was told today.

These and other remarks on behalf of independent not-for-profit research were mady by Dr. Haldon A. Leedy, director of the Armour Research Foundation of Illinois Institute of Technology, Chicago, who addressed the 15th Annual Conference on the Administration of Research meeting here this week.

Using the Foundation as an example, Leedy pointed out that independent research organizations, being free of commercial affiliation with industrial and government groups, are able to pursue broader scopes of research activity.

"We have complete freedom to choose programs through which we can make the greatest contributions toward the advancement of mankind and the scientific state of the art," he went on to say.

At ARF, for example, each staff member has the opportunity of choosing the types of programs in which he is most competent and most interested, Leedy said. This goes a long way in providing the environment so necessary for productive efficient research.

It is in this creative atmosphere that competent scientists do their best work, and where the most breakthrough developments

-more-

occur, Leedy added.

Another advantage of independent research, the opportunity of having a greater diversity of scientific disciplines under one roof, was also mentioned by Leedy, who claimed that such diversity has been a significant factor in the tremendous growth of the Armour Research Foundation, which has been about 10 times faster than the national average.

Lauding the accomplishments of research, Leedy felt that research programs rest upon the highest order of scientific conscience and the competence to differentiate between outstanding and merely satisfactory research.

"Research must continue to be conducted with creative imagination and with effectiveness," Leedy concluded.

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For further information on this release, contact:
James Stathas
CAlumet 5-9600, Ext. 745
Date Mailed: 11/13/61

R RELEASE:

Immediate

CHICAGO, ILL. -- Dr. Leon Wester, Armour Research Foundation of Illinois Institute of Technology research scientist, has been named as an adjunct assistant professor of industrial engineering at Illinois Tech, according to President John T. Rettaliata.

Wester, who received his BS degree from the University of Nancy, France, in 1933, received his M.S. and Ph.D. degrees from Illinois Institute of Technology, in 1956 and 1960, respectively.

Wester's doctorate thesis, "A Method of Assembly Line Balancing," proved to be a step toward solving the mass production problem of how to efficiently balance the production assembly line for optimal flow of product. The method is now being used by a number of companies.

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For further information on this release, contact:

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OR RELEASE: IMMEDIATE

MEMO TO: City Desks, Science Editors, Financial Editors, Editors and Staff Members of Technical and Trade Publications.

SUBJECT: National Conference on Industrial Hydraulics, October 19-20, at the Hotel Sherman, Chicago.

MORE THAN 1,500 hydraulics engineers and scientists from the U. S., Canada, and Europe will meet to hear about and exchange notes on the latest developments in hydraulics fields.

APPROXIMATELY 30 technical papers will be presented, subjects ranging from machine tool to missile and space hydraulics.

NON-TECHNICAL SPEAKERS WILL BE:

Henry Lee Porter, Executive Secretary, Society of Sales Training Executives, Chicago, Ill., speaking on "Developing Our Human Resources," Thursday, Oct. 19, at 12:15 p.m.

Robert B. Stewart, vice president and general manager, Purdue Research Foundation, "Need We Lose South America to the Communists?" at the Thursday banquet, 6:30 p.m.

J. E. Day, President of the Midwest Stock Exchange, "The Care and Feeding of a Financial Market," at the Friday luncheon, 12:15 p.m.

PRESS FACILITIES: The NCIH press room will be located in room 108, Sherman Hotel, and will open each day at 9 a.m. Press registration and the issuing of press badges will take place in the press room. The staff will make every effort to assist you in getting materials you need, including the available pre-prints of papers and talks.

IF we can be of help before or during the conference, please do not hesitate to call upon us.

James Stathas

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R RELEASE: Immediate

For further information on this release, contact:

James Stathas
CAlumet 5-9600, Ext.745

CHICAGO, ILL., Oct. 16, 1961 --- The future existence of this nation depends upon its technological growth---and the United States' continued technological growth depends upon the training we can give today's engineering student.

Illinois Institute of Technology, one of this country's major technological institutions, will open its doors Saturday, Oct. 21, so that Chicagoans can see how our future engineers and scientists are being trained to meet the challenge of this scientific age.

On this Visitors' Day, all of Illinois Tech's departments and laboratories will be open for inspection, with faculty members on hand to answer questions about curriculum and intricate equipment. Most of the equipment on display is used in training students, but IIT's nuclear reactor and $2.5 million computer, also on view, are currently used for research under government and private industrial contracts.

In addition to tours, five panel discussions have been scheduled, covering all fields of IIT's curricula. The panel sessions, comprised of experts in their fields, concern: engineering humanities and social sciences, architecture and design, natural and physical sciences, and a general session concerning admissions, campus life, and jobs.

- more -

Main speaker on Visitors' Day will be Illinois Tech president, Dr. John T. Rettaliata, who will speak on "For Mankind and Self--A Scientific Education."

The program begins at 1 p.m. in IIT's new $3 million union building, 40 W. 33rd st., in which is located a Central Information Desk, where visitors may obtain detailed programs for the day.

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For further information on this release, contact:

R RELEASE:

Date mailed: 10/18/61

Immediate

James Stathas
CAlumet 5-9600, Ext. 745

CHICAGO, ILL. -- Total engineering enrollments in the nation's colleges and universities continued to decline for the third straight year, despite the fact that overall enrollments are at a record high, President John T. Rettaliata reported to the annual meeting of the board of trustees of Illinois Institute of Technology.

Rettaliata, speaking before the board at the Chicago Club recently, warned that these decreases in engineering enrollments "constitute a serious setback in a field vital to our national security and growth." He cited the difference in total enrollments between 1960 and 1957 as amounting to 25,227 students, and remarked that this is "a severe loss for the field of engineering to bear."

In view of this jeopardy to our technological growth, Rettaliata urged this country's educators to "devise methods and find means to induce a greater number of qualified students to enter the engineering field and see their courses through to completion."

He stated that women students are an overlooked source of much needed professional talent in engineering, and pointed out that although more and more women are entering fields previously reserved for men only, the percentage of women choosing this career field also showed a decline during these past three years.

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Rettaliata also pointed out, however, that there are indications that the situation has stabilized. He said, "For the first time since 1958, there is no marked decline in freshmen engineering enrollments. In the fall of 1960, there was a 0.2 percent decline from the previous year, as compared to 3.3 and 11.1 percentage losses, respectively, in each of the preceding two years. Furthermore, graduate engineering enrollments reached new peaks at all levels.

Commenting in his report upon the competition between the U. S. and the Soviet Union, Rettaliata said, "Every new development in space technology means world prestige gained or lost and, even if we do not acknowledge a 'space race' with the Soviet Union, we most certainly are vying with them for world prestige. Largely for this reason, the federal government more and more is underwriting the costs of much of the research now carried on in the United States, especially research in space matters.

"We should be alert to see that this freer flow of government funds does not lead to federal subsidization of our nation's institutions of higher learning, for it is only a step further to control and, thence, destruction of the proud American tradition of academic freedom. In its mad scramble to attain space prestige, Russia has long ago surrendered its academic freedom for an inflexible system of disciplined education, but we should not be deluded into believing that her space achievements are due to an educational system superior to ours.

- more -

"In the Soviet Union, higher education is used as a tool to accomplish the purpose of the state. Our concept of higher education deals with the development of the individual, with concomitant benefit to the nation; the Russian philosophy concerns itself with development of the state, with any enhancement of the individual in the process being of secondary importance. The attainment of immediate material objectives is the predominant motivation. As a result, the product of such a program is intensely specialized, quite well equipped to perform his intended utilitarian function, but he is not a well-rounded individual."

Rettaliata stated, "The responsibility for the attainment of greater competence, to a large extent, rests with the nation's institutions of higher learning. We must be able to provide the required technological education. Our single most important objective is to develop people with the ability to carry out the work to be done.

"To carry out the kind of educational program needed to fulfill our objectives, adequate financial support will obviously be required. Undoubtedly there is a proper role for the government in the support of higher education, particularly in the area of basic research where payment is for services rendered. Outright subsidy, however, is dangerous..." He concluded that "It is hoped that the financial support which we so urgently need will come from private sources rather than the federal government."

Also mentioned in his report was the fact that Illinois Tech assets as of August 31, the end of the fiscal year, amounted to over $54,000,000, and operating income totaled approximately $25,000,000, both substantial increases over the previous year.

- more -

In reviewing the development of IIT's physical plant, Rettaliata pointed out that "New buildings were completed, construction of another was begun, old buildings were razed, and some existing buildings improved." Buildings completed this year were the $2,950,000 Grover M. Hermann Hall union, five men's dormitories costing $1,250,000, and two new research buildings which were erected at a cost of approximately $5,000,000. He also pointed out that "On July 5, ground was broken for the building that will house the John Crerar Library and its world renowned scientific and technological collection of books and other forms of literature. The $2,000,000 structure, with more than two acres of modern library floor space, will occupy the major portion of the block bounded by 33rd, Dearborn, 34th, and Federal sts.

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October 18, 1961

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For further information on this release, contact:

Conrad E. Locander
CA 5-9600, Ext. 745

RELEASE: IMMEDIATE

CITY DUSTFALL RISES

CHICAGO, ILL.--The September average total dustfall of 38.6 tons per square mile in Chicago rose 23% as compared to August reading of 31.4 tons, according to Samuel Radner, research scientist at Armour Research Foundation of Illinois Institute of Technology.

The highest monthly reading was 80.3 tons per square mile, recorded at the Stony Island and 75th Street station, said Radner, while the 17.0 tons per square mile was the low for September. The low was recorded at the 7350 Pratt Avenue station.

INTRICATE MEASUREMENTS

Measurements of total monthly average dustfall are made at the ARF Chemistry Research Laboratory, where jars from each of the 24 Chicagoland stations are individually measured as to content and composition. Intricate measurements are made according to the following standard procedures.

The jar from each station is analyzed to determine whether the materials collected are combustible or non-combustible, water soluble or non-soluble.

Dust-laden water from the collecting jars is first screened through a filter which holds all dust particles larger than 1/30th

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of an inch. Larger particles, according to Radner should not be included in measurements of dustfall as they are too large to be carried for reasonable distances. Thus, many insects and leaves are filtered out before actual measurements are taken.

The remaining solutions are then passed through glass filters so fine that only "water soluble" particles are allowed to pass. The filtered water is then evaporated in an oven and the remaining sediment is weighed, giving the amount of water soluble particles.

The residue which is trapped by the filter must be further analyzed to determine which form of non-soluble matter it is.

First the filter is weighed to determine the total weight of non-solubles. Then it is washed with chloroform, which takes out most oils and tarry matter. When it is weighed again, the difference determines the amount of non-soluble tarry matter in the sample.

After its chloroform bath, other dust particles still remain on the filter. After weighing, they are sent into a furnace to give an analysis of the combustible and non-combustible elements of dustfall. The combustible elements are burned off, leaving an remaining ash, which is again weighed. This ash forms part of the total non-combustible element of dustfall.

All of the weights and figures then undergo individual statistical analysis and the end result is the determination of the total average monthly dustfall per month per square mile, Radner said.

-more-

Add 2--September Dustfall

This month's water soluble portion increased 9% over August, 1961 and is 12% higher than the September 1960 readings. Showing the largest increase, Radner said the water insoluble content increased 37% above August's reading, at 21.3 tons per square mile in September.

CHICAGO TOTAL DUSTFALL
Trends by Station
September, 1961
Tons Per Square Mile Per Month

Ward No.	Station Address	Readings in Sept., 1961	August 1961	Sept. 1960
1	State and Adams	54.5	77.1	53.0
1	33 N. La Salle	69.1	122.3	40.6
	Loop Average	61.8	99.7	46.8
1	2135 S. Michigan	44.4	32.5	40.0
4	825 E. 44th	49.6	33.0	29.5
5	1362 E. 59th	28.2	23.7	26.0
7	7351 Stony Island	80.3	27.6	37.9
9	67 W. 113th Pl.	24.0	21.2	23.3
10	8858 Marquette	59.0	38.1	38.5
13	3105 W. 63rd	28.5	30.0	24.6
13	6140 S. Melvina	36.9	36.2	37.9
17	7559 Eggleston	23.4	24.6	21.6
19	1620 W. 99th	39.8	53.3	18.9
22	3608 Ogden	31.9	29.4	36.0
26	1500 W. Monroe	47.5	41.8	32.8
30	5055 Fulton	41.3	22.5	30.2
32	2940 W. Cortland	38.0	22.8	26.0
36	5602 Belden	30.5	17.3	23.8
40	3944 N. Sawyer	25.8	26.2	22.5
41	7350 Pratt	17.0	12.1	15.9
42	54 W. Hubbard	41.5	31.0	49.4
44	551 Grant Pl.	39.8	25.7	24.0
46	3532 Sheffield	40.2	45.1	28.2
49	1622 Pratt Blvd.	26.2	20.3	23.0
12	2240 W. 37th	33.1	32.7	27.9
Average (incl. Loop average)		38.6	31.4	29.8

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For further information on this release, contact:

Conrad E. Locander
CA 5-9600, Ext. 745

RELEASE: IMMEDIATE

COMPUTER OFFERS NEW HOPE IN DIAGNOSTICS

CHICAGO, ILL.--Computers may soon aid medical science in saving lives, according to an eastern biomedical research official.

Robert S. Ledley, President of the National Biomedical Research Foundation, Inc., will present his views during the 1961 Computer Applications Symposium at Chicago's Morrison Hotel. His paper, "Medical Diagnosis Aided by Digital Computers", will demonstrate how digital computers can aid in the formulation of a rapid and precise judgement of patient illnesses.

Sponsored by the Armour Research Foundation of Illinois Institute of Technology, the October 25-26 Symposium will stress user experience and programming techniques in business, management, science and engineering. This year's program presents a range of applications in such fields as library operation, automated teaching, record management, reactor design, and medical diagnosis.

It is possible to efficiently convert the entire medical diagnostic process into mathematical models, according to Ledley, who will present his paper October 26. The mathematical models can be programmed into a computer. Such techniques become a more precise formulation of the reasoning used in modern medical diagnosis.

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Today's medical practitioner must first make a logical analysis of the patient's symptoms. This takes time. More time is spent when he must consider an analysis of the probabilities of any alternative that may result from logical processing. Finally, he must analize all of his decisions associated with treatment planning.

Computers, according to Ledley, can provide a quicker analysis of all steps in diagnosis. In addition, they are more accurate in recalling the desired aspects of a patient's total medical record, including biochemical and physiologic norms.

Inquiries regarding the symposium should be addressed to Mr. Benjamin Mittman, Program Chairman, c/o Armour Research Foundation, 10 West 35th Street, Chicago, Illinois.

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October 20, 1961

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For further information on this release, contact:

Conrad E. Locander
CA 5-9600, Ext. 745

ELEASE: IMMEDIATE

CHICAGO, ILL.--An automated "teaching machine" may become the electronic school marm of the future, according to a California research scientist.

A complete report on the facility, which teaches in the absence of human instructors, will be presented at the 1961 Computer Applications Symposium, October 26, by Donald Englund, a member of the Automated Teaching Staff of System Development Corporation.

Sponsored by the Armour Research Foundation of Illinois Institute of Technology, the Symposium will stress computer applications in the government, industry, medicine and education. The two day conference will be held in the Terrace Casino of the Morrison, Hotel, October 25-26.

Taking individual student differences into account, "CLASS", the automated classroom, allows students to proceed at their own pace, according to Englund. Unlike human instruction, where prepared lesson plans are given to the students of today, "CLASS" is capable of adjusting its questions to the quality of the answers it receives from each student. Slower students can be branched into a remedial set of questions, designed to furnish them with additional information and clear up any misconceptions about a subject, while brighter students can proceed with their lessons at a more accelerated pace. In addition, the system provides automatic knowlege of student results.

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Add 1--CAS Teaching Machine

Because of their flexability, computers are being used in a study of automated instruction. By using computers to compare different automated systems, a more accurate picture of system variables in automated teaching can be gained.

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For further information on this release, contact:

M. T. Noar
CA 5-9600, Ext. 744

October 24, 1961

RELEASE: IMMEDIATE

CHICAGO, ILL.--A new highly efficient fuel cell which can supply electrical power in the high temperature and radiation environment of outer space has been developed by the Armour Research Foundation of Illinois Institute of Technology, it was announced today.

Using hydrogen and oxygen for fuel, the cell is composed of an inorganic ion-exchanging membrane which operates at higher temperatures than the organic types now in use, according to Dr. Jack Bregman, supervisor of physical chemistry research, and Dr. Andrew Dravnieks, ARF scientific advisor. The stability of organic membranes drops off sharply at 70 degrees centigrade while increased power can be attained at 100 degrees centigrade with the inorganic material.

The inorganic cell is also more resistant to radiation of a nuclear or cosmic origin, the two inventors of the cell went on to say.

Described as a breakthrough development, the new fuel cell offers an unusually high energy-to-weight ratio, whereby efficiencies are almost unlimited.

Explaining the significance of the development, Bregman and Dravnieks pointed out that inorganic materials do not require water to maintain stability, thus resulting in a lighter cell for space applications. On the other hand, organic materials require liquids to maintain pliancy in the membrane, which adds

-more-

excess weight to be boosted into outer space.

Foundation scientists have produced experimental cells about the size of a quarter, which have produced .95 volts over an open circuit. Again the inorganic membrane is superior for power, being capable of attaining up to 100 amperes per square foot, while the organic cell can attain only about 35 amperes, according to Bregman and Dravnieks.

Hydrogen causes a reaction on one side of the membrane which gives off electrons, ARF scientists explained briefly. Oxygen on the second side creates a void in electrons, and when hydrogen ions traveling through the membrane complete the circuit, a flow of electrons takes place from the anode (surplus electrons) to the cathode (electron deficit), thus completing the electrochemical reaction.

With any number of the wafer-type fuel cells arranged in series, sufficient voltages may be derived to supply the necessary power for satellite communications, telemetry devices in space, and for operation of equipments during future manned landings on the moon and other planets, the scientists stated.

Other applications for the new fuel cell would be to supply power packs for foot soldiers. Its light-weight composition makes it ideal for portable communications equipment, and its high energy-to-weight ratio would supply sufficient power for portable radar, they went on to say.

Although developed specifically for fuel cell application, the inorganic ion-exchanging membrane can do an efficient job in the desalinization of water, Bregman and Dravnieks added.

from
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October 24, 1961

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For further information on this release, contact:

Conrad E. Locander
CA 5-9600, Ext. 745

COLLOQUIUM SPEAKER NAMED

CHICAGO, ILL.--Raymond D. Mindlin, professor of civil engineering, Columbia University, will be guest speaker at the October 25th Mechanics Colloquium, sponsored by Armour Research Foundation and Illinois Institute of Technology.

Mindlin's speech, "Effects of Couple-Stresses in Elasticity", will be presented at 6:30 p.m. in the Mettalurgical and Chemical Engineering Building, 10 West 33rd Street, on the IIT campus.

Prior to the colloquium, coffee will be served at the IIT Student Union, 40 West 33rd Street. All interested persons are invited to attend.

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from
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October 25, 1961

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For further information on this release, contact:

Conrad E. Locander
Computer Applications
Symposium--Press Room-
Morrison Hotel

OR RELEASE: AFTER 12:30 p.m., CDT

ENVISIONS MAN MACHINE COMMUNICATION

CHICAGO, ILL., Oct. 25--The day when man and machine can communicate intellectually is not far off, according to a space technology pioneer.

"We are engaged in transition to a new highly technological society", said Dr. Simon Ramo, executive vice president and director of Thompson Ramo Wooldridge Inc. He dubbed it the age of "Intellectronics", characterized by a "new man machine partnership in intellectual activities".

Ramo addressed nearly 300 scientists and engineers at a luncheon during the 1961 Computer Applications Symposium sponsored by Armour Research Foundation of Illinois Institute of Technology.

"The next decade will see the advent of the period in which electronic machines become highly active in the intellectual activities of the world", he said.

SEES NEED FOR NEW LANGUAGE

Visualizing the common use of electronic knowlege storehouses in all fields, he said the "Age of Intellectronics" would require a world-wide, common, logical language which is consistent in its structure, based on precisely described rules.

"This new language will first grow in usage for man-machine communications, and it will commence to influence the spoken and

-more-

written English of our every day man-to-man communications", Ramo said. He described the new language in terms of color codes, sound patterns, finger snaps or taps, or the replacement of the decimal system by the binary or octal number system.

"Clearly, for the physical operations of the world, it is a far stronger candidate for world-wide standardization than universal language proposals of the past that were invented before the machine partner had a vote," he said, adding that such systems would provide more uniform sentence structures for man-machine and machine-machine communications.

CALLS FOR WIDE OUTLOOK

In order to achieve this, he called on delegates to widen their powers of foresight and recognize that the man of the future will deal only with large business issues and policies, leaving minor details to his machines.

"We must work towards a situation in which all important data are gathered with a minimum of intervention by man. This information should be transmitted automatically, and integrated and processed into a plan for what should happen next in view of this information", he said.

"When such smart machines are available," Ramo said, "They will take over some of the tasks previously assigned to the human mind". In order to do this, he said that man will have to orient his communication to a more scientific, logical, consistent and factual approach to every intellectrual task.

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CLOSEUP ON COMPUTERS

The Symposium is providing scientists, engineers and businessmen with a peek into the future applications of computers today and tomorrow at Chicago's Morrison Hotel.

Today's session, covering business and management applications, stressed user experience in assembly line balancing, advertising, automation of library operations, research programs and methods of systemmatic documentation.

Tomorrow, October 26, engineering and scientific sessions will feature discussions on aerospace programs, ALGOL computer language, applications of the Univac Larc, automatic programming of tools, computer aids to medical diagnosis, and the automated classroom.

Guest speaker at tomorrow's luncheon is Dr. Robert M. Fano, Professor of Electrical Communications, Massachusetts Institute of Technology. Fano's speech will be "Digital Computers in Communication Engineering".

-30-

rom
LINOIS INSTITUTE OF TECHNOLOGY
WEST 33RD STREET TECHNOLOGY CENTER CHICAGO 16, ILLINOIS

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James Stathas
CAlumet 5-9600, Ext. 745

1961-62 Illinois Tech

BASKETBALL SCHEDULE

cember 5	University of Illinois (Chicago)	Home
9	Chicago Teachers College (Homecoming). . .	Home
13	St. Ambrose.	Away
15	Lewis College.	Home
28, 29, 30	-- HOLIDAY TOURNAMENT AT ROCHESTER INSTITUTE OF TECHNOLOGY, ROCHESTER, N.Y.	
nuary	Loras College.	Home
9	University of Illinois (Chicago)	Away
13	Aurora College.	Away
31	University of Chicago	Away
bruary 2	St. Ambrose College.	Home
6	Elmhurst College.	Home
9	Detroit Tech.	Home
13	Aurora College.	Home
15	Wheaton College.	Away
17	Loras College.	Away
21	Lewis College.	Away
23	McMurray College.	Away
26	University of Chicago	Home
28	Chicago Teachers College.	Away

Coach: Ed Glancy.
Ass't. Coach: Ed. Maracich
Captain: John Bagley
Manager: George Morrissey

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OR RELEASE: IMMEDIATE

CHICAGO, ILL.--Renowned scientists from the world over will present technical papers at the first International Symposium on Photoelasticity ever held in the United States.

The conference will be held at Illinois Institute of Technology, October 29-31. The only other meeting of this kind was held in Brussels, Belgium in 1954.

Scientists from Switzerland, Sweden, England, Israel, Japan, Germany, Scotland, and the U. S. will present technical papers describing latest developments in the field.

One of the pioneers in developing the world's first atomic chain reaction, Dr. Samuel King Allison, will be main speaker at the meeting's banquet, Monday evening, October 30. Allison, of the University of Chicago's Enrico Fermi Institute for Nuclear Physics, will speak on "Recollections of the First Chain Reaction."

The chief sponsors of the conference, in addition to Illinois Tech, are the National Science Foundation, and the U. S. Army Research Office (Durham).

Program chairman is Dr. Max M. Frocht, IIT professor of mechanics and director of the Institute's experimental stress analysis laboratory.

from
LINOIS INSTITUTE OF TECHNOLOGY
35 WEST 33RD STREET TECHNOLOGY CENTER CHICAGO 16, ILLINOIS

October 31, 1961

Public Relations
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Armour Research Foundation
of Illinois Institute of Technology
Institute of Gas Technology

For further information on this release, contact:

M. T. Noar
CA 5-9600, Ext. 744

R RELEASE: IMMEDIATE

CHICAGO, ILL.--Growing problems of electromagnetic interference, which hinders the reliability of both military and civilian electronic systems, will be a major topic of discussion at a joint military-industry meeting here November 7-9.

With an anticipated attendance of more than 500 leading scientists, it is expected that technical and operational plans of the Department of Defense's Electromagnetic Compatibility Program will be revealed at the Seventh Conference on Radio Interference and Electronic Compatibility.

Co-sponsored by the U. S. Army, Navy, and Air Force, and conducted by the Armour Research Foundation in cooperation with the Professional Group on Radio Frequency Interference of the Institute of Radio Engineers, the three-day conference will be held on the campus of the Illinois Institute of Technology.

The keynote address, "By-Products of the Electronic Revolution," will be delivered by Brig. Gen. John A. Mc David, Director of Communications-Electronics for the U. S. Joint Chiefs of Staff, Washington, D.C.

"Radio Astronomy--The Big Dish" will be the subject of the luncheon address on November 7 to be given by R. Haskins of the U. S. Naval Research Laboratory, and S. Bennett of the Navy Bureau of Yards and Docks.

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Add 1--Conference on Radio Interference and Electronic Compatibility

Highlighted by two presentations on the DOD's Electromagnetic Compatibility Analysis Center at Annapolis, Md., forty-three technical papers will be given at 13 sessions. All technical sessions will be held in Grover M. Hermann Hall at 40 West 33rd Street on the IIT campus in Chicago.

Herbert M. Sachs, ARF assistant director of the electromagnetic compatibility facility, is the conference chairman.

Inquiries regarding the conference should be addressed to William Magee, Conference Secretary, Armour Research Foundation, 10 West 35th Street, Chicago 16, Illinois.

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s, from

October 31, 1961

ILLINOIS INSTITUTE OF TECHNOLOGY
35 WEST 33RD STREET TECHNOLOGY CENTER CHICAGO 16, ILLINOIS

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Public Relations
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M. T. Noar
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CHICAGO, ILL.--A growing dependence upon mathematics and theoretical methods as sole solutions to complex engineering problems threatens to stifle this country's supply of competent applied research and experimental scientists, a Chicago educator told the International Symposium on Photoelasticity.

As a result, already, relatively few science graduate students enter the experimental field, according to Dr. Max M. Frocht of Illinois Institute of Technology, who addressed one of the opening sessions of the three-day conference at Technology Center. Frocht is professor of mechanics and director of experimental stress analysis at IIT.

Referring to the design of machinery, buildings, and other structures, Frocht pointed out that modern requirements of speed, weight, and temperature present problems that cannot be solved by theoretical methods alone. When the shape of a part and the load upon it are complicated, theoretical methods are not sufficient to determine the structure within that part and recourse must be made to experimental methods.

Frocht cautioned the group that the overestimation of the power of analytical methods in stress analysis could not only result in inferior products, but could also impede a student's motivation for studying experimental techniques. It is much easier now to find well prepared theoretical analysts than it is to find competent experimentalists, he added.

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Add 1 - Frocht Speech

Frocht attacked the thinking of certain mathematicians, who feel that if a problem cannot be solved mathematically, it is not worth solving at all.

Frocht called for an integration of theoretical and experimental methods with the aim of producing well-rounded engineers.

Among the chief sponsors of the Symposium, the first ever to be held in the United States, were the Illinois Institute of Technology, U. S. Army Research Office, and the National Science Foundation. The only other previous meeting of its kind was held in Brussels, Belgium in 1954.

Renowned scientists from the U. S., England, Scotland, Sweden, Switzerland, Israel, Germany, and Japan presented papers on the latest developments in the field of photoelasticity.

Photoelasticity is a scientific experimental method for determining the stresses in structures and machinery with the aim of increasing their soundness and life.

from
LLINOIS INSTITUTE OF TECHNOLOGY
35 WEST 33RD STREET TECHNOLOGY CENTER CHICAGO 16, ILLINOIS

November 2, 1961

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)R RELEASE: IMMEDIATE

CHICAGO, ILL.--A growing trend toward multi-company cooperative research is helping smaller industries keep pace with their larger counterparts in the area of technological development, the head of one of the nation's leading research organizations said today.

The trend, described as industry association research, permits many industries to carry on the type and scope of research which could normally be afforded only by major industries, according to Dr. Haldon A. Leedy, director of the Armour Research Foundation of Illinois Institute of Technology.

Speaking before a seminar on Research and the Nation's Railroads here, Leedy stated that any industry, or any segment of an industry that fails to keep up with the rapid expansion of research and development, will soon find itself lagging far behind in this age of rapid technological change.

"However, the cost of doing research has spiraled upward," Leedy went on. "And considering the costs of equipment, personnel, and overhead, the annual average cost for supporting a staff of thirty scientists or engineers exceeds a million dollars."

"Through industry association research," he pointed out, "top scientific authorities and extensive physical research facilities, such as nuclear reactors and modern computer systems

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are made available to smaller industries at costs made nominal by the distribution of expenses over a number of different companies."

Leedy predicted that approximately 250 billion dollars would be spent on research development in the U. S. during the 1960's, in contrast to the 58 billion dollars expended during the preceding decade.

The significance of these figures became apparent when he pointed out that the total of all research expenditures in the United States for the 175 years before 1950 amounted to about only 17 billion dollars.

The 3 billion dollars spent during 1950 represented only 1 per cent of the gross national product, while 1961 has witnessed a skyrocketing of these figures to 16 billion dollars and about 3 per cent of the national income, according to Leedy.

The two-day meeting, which is being held at the Sheraton-Chicago Hotel, has brought together some of the nation's leading scientists and transportation experts for the purpose of discussing the latest research techniques and developments in the nation's railroads.

The seminar is co-sponsored by the Armour Research Foundation and the Association of American Railroads.

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FOR IMMEDIATE RELEASE

Kappa Phi Delta Sorority and Phi Kappa Sigma Fraternity of Illinois Institute of Technology are presenting the annual "Toy Harvest" Dance on Friday evening, November 3, 1961 at 8:30 pm. The theme of this year's Toy Harvest is Alice in Wonderland and pledges attired in regalia of Alice's world will serve as mixers for the dance. Admission is one toy or 75 cents and all proceeds will be given to the Ada S. McKinley House. A dancert will be held just prior to the dance featuring the combined voices of the Michael Reese ~~[illegible]~~ Nurses and the Techmen under the direction of Dr. H.E. Nutt of Vandercook School of Music. These events will be held in Grover M. Herman Hall which is located on Dearborn street ~~[illegible]~~ between 32nd. and 33rd. streets.

at De Paul Univeristy; and Patricia Whistle, Ray Vogue School of

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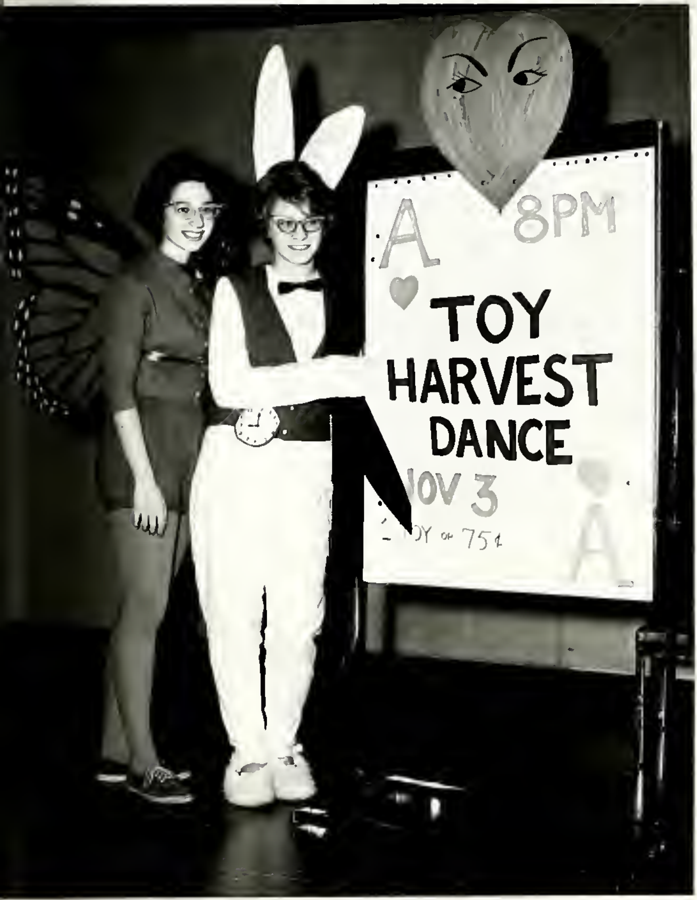

Dressed as characters in Alice and Wonderland, two Illinois Institute of Technology coeds advertise the theme of the school's annual charity dance, "Toy Harvest," which will be held at IIT's new union Friday evening, Nov. 3. The girls are (l. to r.) Elaine Price, 8923 ~~[illegible]~~ S. Clyde, and Karen Charles, 3821 N. Wilton. ~~[illegible] with all~~ Proceeds of the dance, with admission being either ~~[illegible]~~ $.75 or the donation of one or more toys, will go to the Ada S. McKinley House. ~~[illegible]~~ Sponsors of the event are Kappa Phi Delta ~~[illegible]~~ Sorority and Phi Kappa Sigma Fraternity.

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OR RELEASE: IMMEDIATE

IIT GOES NATIVE FOR "I-BALL"

CHICAGO, ILL.--A Hawaiian theme will prevail at Illinois Institute of Technology's Integral Ball, to be held at the Sheraton-Chicago Hotel, Saturday evening, Nov. 11.

The "I-Ball," a traditional dance at IIT, will feature an all-Hawaiian floor show this year, which will include native long-knife and fire dances. Makanani and Moana, featured dancers from the famed Hawaiian Village in Honolulu, will demonstrate traditional dances from the land of swaying palms, in addition to a choral group presenting folk songs in their native tongue.

Peter Palmer, Mercury recording artist, his band and chorus, will provide additional entertainment and dance music.

Bernard "Sonny" Weissman, IIT athletic director, will emcee the show and will assist a panel of Patricia Vance models in selecting this year's queen.

The field of beauties has been narrowed down to five in an all-school election, according to Barbara Smith, IIT student and program coordinator. They are: Linda Thomas, IIT secretary; Patricia Bresden, design sophomore at IIT; Sandra Jo Martin, design senior at IIT; Leona Filiapiak, a medical technician junior at De Paul Univeristy; and Patricia Whistle, Ray Vogue School of

-more-

Design.

The queen will be awarded a Patricia Vance modeling course and a wrist watch, according to Vern Kalshan, queen contest committee chairman.

The dance is scheduled to begin at 8:30 p.m., with a reception by Dr. John T. Rettaliata, IIT president; Dean and Mrs. Thomas E. Hogan, and Dean and Mrs. Ralph Godzicki.

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November 6, 1961

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R RELEASE: IMMEDIATE

IIT AWARDED MATH GRANT

CHICAGO, ILL.--Fifteen high school mathematics teachers will receive advanced full time training at Illinois Institute of Technology through the award of a $103,800 National Science Foundation grant.

The grant will alleviate an increasing demand for competent scientists and mathematicians in this country, according to Dr. Haim Reingold, chairman of the mathematics department of IIT.

Citing many instances where advanced training in higher mathematics is needed to fill the growing manpower shortage in science, Reingold said that the major solution to the problem lies in providing opportunities for advanced degrees to high school mathematics teachers. They will, in turn, be able to provide their students with more advance knowledge, he said.

Rounding off an entire fellowship program in mathematics, the new NSF grant enables 15 teachers to study full time at IIT. The National Science Foundation has granted IIT funds for in-service fellowships, which allow local teachers part-time opportunities for advanced study. In addition, ESSO mathematics fellowships provide stipends for part time study to teachers who prefer to continue work and study on a part time basis.

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"The new NSF grant will supplement both," Reingold said, "By providing funds for full-time fellowships." He said the in-service fellowships would still be available for those who wished to work part time for advanced degrees.

"Because many teachers find advanced study on an in-service basis proceeds too slowly, they do not continue for advanced degrees. Then too, the weight of study while providing for a family presents another problem. A third problem is the additional living expenses which non-local teachers incur while studying for advanced degrees", he said.

Under the Academic Year Institute, as the program is called, $3,000 will be granted to each qualified mathematics teacher for tuition and subsistence. An additional stipend of $450 will be made available for each dependent. Teachers may take a leave of absence from their schools in order to devote full time toward their studies.

SPECIAL DEGREE OFFERED

A special degree, Master of Science for Teachers in Mathematics, will be awarded those who successfully complete course requirements. Another option, leading to a Master of Science in Mathematics degree, will be offered as well.

Participants will register in September, 1962, as regular graduate students and will have a variety of nearly 40 mathematics courses from which to choose. A brochure with full details on the fellowship is being prepared for distribution throughout the country. Any mathematics teachers, who is a U. S. citizen, is urged to apply.

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The National Science Foundation program encourages institutions of higher learning to apply for grants on a competative basis. The money from grants is used for fellowships to further education in scientific fields.

Further information on the grant may be obtained by contacting Dr. L. Roy Wilcox, Academic Year Institute program director, Illinois Institute of Technology, 3300 South Federal Street, Chicago 16, Illinois.

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Chosen queen of Illinois Tech's annual Integral Ball, held at the Sheraton-Chicago Hotel, Nov. 11, is Leona Filipiak (center), 5639 South Seeley, a medical technician junior at De Paul University. Runners-up who comprise her court are: (l. to r.) Patricia Wistl, Wauwatosa, Wis., a student at the Ray Vogue School of Design; Linda Thomas, 6035 N. Kirkwood, an IIT secretary; Sandra Jo Martin, 4847 S. Kostner, design senior at IIT; and Patricia Bresden, 9300 S. Harding, Evergreen Pk., IIT design sophomore.

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OR RELEASE: IMMEDIATE

ATOMS IN CLASS? SCIENTIST SAYS "YES"

CHICAGO, ILL.--"The nuclear age is safer than the fabled world of the Mad Hatter", according to a Chicago physicist who advocates the use of radioactive isotopes in the high school classroom.

Raymond C. Barrall, chief health physicist at Armour Research Foundation of Illinois Institute of Technology made this statement in conjunction with plans to hold a special teacher's symposium at the National Youth Conference on the Atom. The conference will be held November 9-11 at the Palmer House.

"During the time Lewis Carroll wrote Alice in Wonderland, it was common for felt makers to be considered quite mad", Barrall said.

"This was due to the large quantities of mercuric oxide which felt makers inhaled on the job. The oxide was formed from mercury, which was used without precaution during the mid-nineteenth century in the manufacture of felt. When inhaled over long periods of time, mercuric oxide noticeably affects one's mentality...thus the term Mad Hatter."

In contrast, Barrall noted that safety precautions preceeded the nuclear age with such efficiency that AEC safety records are better than for most "safe" jobs.

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"Most people express unwarranted fear of radiation in terms of fallout...bombs...and BAD", he said, adding that one of the chief aims of the Conference will be to interest educators in the possibility of teaching peaceful uses of the atom in the classroom.

Barrall is no newcomer to this notion. Assisting Dr. Leonard Reiffel, head of Armour Research Foundation's Physics Engineering Research Department, Barrall helped to impress an audience of 200 teachers and educators earlier this year at Lane Technical High School on the safe use of hot isotopes in the classroom.

"Safe radiation levels can be maintained", he said, "which will allow students to handle radioactive materials for experimentation without any danger to themselves".

"If educators fail to incorporate new materials into the current high school science program, what they now call a science course will in fact be a history course", Barrall quipped.

He said, "We must help teachers keep abreast of new developments and allow them to incorporate them into ever changing curriculums". He suggested that science classes be supplemented with educational television and better audio-visuals on the subject of atoms in order to keep students abreast of new trends in the field.

Commenting on the vast numbers of scientific papers on the subject of atoms which have flooded the field within the past few years, Barrall noted the need for more pamphlets and books

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geared to the classroom level. This approach would form a sound basis for putting the atoms-in-the-classroom project on its feet, he said.

Barrall will be Master of Ceremonies, November 9, at the special symposium for teachers. Guest speaker during the symposium will be Dr. Aerid Schrodt of Nuclear-Chicago, who will advise educators on "A New Approach to Teaching Atomic and Nuclear Science in High Schools and Colleges". Demonstrations and pamphlets on the safe use of radioactive materials will also be presented.

The conference is sponsored by the American Nuclear Society, nearly 50 electric utility companies and 14 prominent national scientific organizations.

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Date Mailed: 11/8/61

R RELEASE: Immediate

CHICAGO, ILL. -- The expansion of the Illinois Institute of Technology chemistry department, with the addition of three faculty members, was announced by IIT president, Dr. John T. Rettaliata.

Named associate professor in chemistry was Dr. Kazuo Nakamoto, and appointed as assistant professors were Drs. Donald G. Gardner and Gerard V. Smith.

Prior to joining the IIT staff, Nakamoto was an assistant professor of chemistry at Clark University, and in the past also held posts in Osaka University, Japan, and at Iowa State University. He received both his master's and doctor's degrees from Osaka University. Nakamoto is also author of thirty-some articles on chemical spectroscopy appearing in technical publications.

A native of Chicago, Gardner received his B.S. degree from the University of Illinois in 1953, and received both his M.S. and Ph.D. from the University of Michigan. Since 1959, he has held the post of assistant professor of chemistry at the University of Arkansas, and prior to that was a scientist with Westinghouse Electric Corp. Gardner is the author of 26 technical papers and published articles in the fields of nuclear and radiation chemistry.

Smith, who has been a research associate and instructor of chemistry at Northwestern University, received a bachelor of arts and master of science degree from the College of the Pacific, respectively in 1953 and 1956, and received his Ph.D. from the University of Arkansas in 1959. He has published a number of technical papers on the catalytic hydrogenation of organic compounds.

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Date Mailed: 11/3/61

R RELEASE: Immediate

CHICAGO, ILL. -- Marshall M. Sluyter (2901 S. Parkway, Chicago) has been named an instructor of mechanics at Illinois Institute of Technology, it was announced by Dr. John T. Rettaliata, IIT president.

Immediately before joining Illinois Tech, Sluyter was a research scientist with Therm Advanced Research, Ithaca, N.Y., and has also done research work with the Armour Research Foundation, which is an affiliate of IIT.

Sluyter received his B.S. degree from Newark College of Engineering in 1952, and his M.S. degree from New York University in 1955.

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R RELEASE:

Date Mailed: 11/9/61

CHICAGO, ILL. -- Engineering colleges and universities should be located in large cities rather than in rural areas, Dr. John T. Rettaliata, president of Illinois Institute of Technology, said in a recent presentation.

Speaking before the annual meeting of the Association of Urban Universities at the LaSalle Hotel, Nov. 5-6, Rettaliata emphasized that "We must recognize the fact that the society of man is centered in and emanates its influences from urban areas...we must put our schools where people are, and not where the best looking campus might be located.

Pointing out that "More and more, man learns, lives, works, and makes his advances in major population centers, and therefore," he stated, "the school, the curricula, the facilities, and the faculty must all be molded to be of greatest service to a society which dwells in an urban atmosphere. This cannot be done better than by locating the physical plant in the heart of that environment."

"Most of this country's wealth and creative activity," he said, "are centered in the large cities. And there is no denying that education and learning depend upon a stimulating environment in which activity and achievement are the natural order of things...The city should offer no ivory tower to the serious student, for around him lies the world of competition, of perpetual activity, of continual achievement -- the real world into which he is going to be graduated."

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Rettaliata also said the urban atmosphere attracts teachers and researchers of highest competence, who gravitate to the large city because it is the "dynamic seat of learning."

"The growing interdependence between industry and institutions of higher learning is one of the most significant developments in recent years," he stated. The schools, he said, benefit in these ways:

1) Experienced persons are able to serve as part-time faculty members, bringing a wealth of practical knowledge

2) Choice of career is simpler for the student because he can view opportunities first hand.

3) Students can work in fields of their choice while attending school

4) Job placement counselors can keep close contact with industry

Benefits to industry are:

1) Industrial organizations are easily able to recruit new personnel from nearby institutions.

2) The proximity of educational institutions enables upgrading of personnel through evening and extension courses.

Rettaliata pointed out that industry has realized the mutual benefits in having educational facilities readily available. He said, "This realization has been demonstrated in recent years through corporate gifts, donations, and grants to make possible even wider educational opportunities."

Stating that there are of course certain complications and liabilities presented to an urban school, Rettaliata said "The advantages far outweigh the disadvantages" The liabilities he mentioned were that further expansion may be difficult because of the complexities of land acquisition, and that the community in which the campus was first located may change over the years, affecting the character of the campus.

LLINOIS INSTITUTE OF TECHNOLOGY

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Date Mailed: 11/10/61

R RELEASE:

Immediate

CHICAGO, ILL. -- Stephen Szepe (5428 Woodlawn) has been appointed as an instructor of chemical engineering at Illinois Institute of Technology, it was announced by Dr. John T. Rettaliata, IIT president.

Performing his undergraduate work in Hungary, Szepe came to the United States in 1957 and received his master of science degree from Illinois Tech in 1961.

In Hungary, Szepe served as researcher in the Hungarian Petroleum and Gas Research Institute. He has also been a chemical engineer with Sinclair Research.

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R RELEASE: AT WILL

November 14, 1961

LAKE SWIMMER ERICKSON TRAINS FOR CHANNEL SWIM

CHICAGO, ILL.--Ted Erikson, world's record holder in time and distance for open water swimming, will be a guest at Cypress Gardens, Florida, November 22-24, where he will train for a chance to swim the English Channel.

Having stemmed the chilly waters of Lake Michigan from Chicago to Benton Harbor last August 22, the 33-year-old Illinois Institute of Technology swimming coach plans to cover a 20 mile course through eight of the Winter Haven lakes.

SPIRIT WILLING - FINANCE WEAK

Erikson, the first in history to complete the Lake Michigan Swim Challenge, received a cash prize of $3,675 from a Chicago auto dealer last August for his feat. But funds needed for a try at the English Channel pose quite a problem for him.

"I may get a few sponsors in Florida", he said adding that he had contacted some food manufacturers, hoping to get funds by endorsing their products. He has been spending most of his spare time paddling back and forth at indoor swimming pools in Chicago and has accepted an invitation to train in Florida, where warm weather will allow him to get in shape for distance swimming.

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RESEARCHES THE SWIM

Part of the job of Erikson's coaching staff may lead to the development of new physiological studies for astronauts.

One of his coaches, William Blair, a chemistry research scientist at Armour Research Foundation, said Erikson's ability to overcome fatigue was a vital training factor which led to his success. Blair said there is a correlation between man's ability to control his rate of hormone output and his ability to overcome fatigue.

"Because of shock, fright, or anticipation, most people generate a high concentration of hormones quickly", Blair said, adding that this is good for short distance swims, but detrimental to the distance swimmer. Erikson was carefully trained to control his nervousness in order to spread his body's hormone production over a long period of time.

"Results of tests taken before, during, and after the swim show that Erikson was capable of controlling these factors, allowing him to experience no more fatigue than a runner who has just completed a mile race", said Blair.

Although Erikson had undergone his feat in entirely different environmental conditions, Blair said that the same factors of excitement which he underwent could be applied to the training of astronauts, who undergo similar conditions for long periods of time.

-30-

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Institute of Gas Technology

For further information on this release, contact:

James Stathas
CA 5-9600, Ext. 745

R RELEASE: AT WILL

Date mailed 11/14/61

CHICAGO, ILL.--Harold I. Pratt (311 Memorial dr., Calumet City) has been appointed acting director of cooperative education at Illinois Institute of Technology, it was announced by Dr. John T. Rettaliata, IIT president.

He was named to the post after the department's director, William R. Smith, a colonel in the U. S. Army Reserves, was called to active duty with the 322nd Logistical Command.

Pratt has been a training supervisor at American Steel Foundries for the past ten years. He is secretary of the Illinois Training Directors Association, and a member of the American Society of Training Directors and the National Management Association.

-30-

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R RELEASE: Immediate

For further information on this release, contact:
James Stathas
CAlumet 5-9600, Ext. 745
Date Mailed: 11/15/61

Five new faculty members have been appointed to the language, literature, and philosophy department of Illinois Institute of Technology, it was announced by Dr. John T. Rettaliata.

Appointed as instructors of English are Martin Roth (1116 E. 54th Pl.), Dennis M. Schmitz (830 S. Leavitt Ave.), and Joseph P. Wesolowski (1513 E. 57th St.). Named as instructor of speech and director of drama is Harvey Landa (2053 N. Lincoln Ave.). Norman E. Walker (5539 E. Maryland Ave.) was named instructor of philosophy.

Roth received his master of arts degree from the University of Chicago in 1957, and had taught at Wilson Junior College, the University of Maryland, and the University of Illinois-Chicago.

Schmitz received his B.A. degree from Loras College, Dubuque, Ia., in 1959, and this year was awarded an M.A. degree from the University of Chicago. He has been a part-time instructor at St. Mary's College, South Bend, Ind., the University of Chicago, and Indiana University.

Besides a master's degree in English awarded to him by the University of Chicago in 1961, Wesolowski also holds a law degree from the University of Chicago, and an engineering degree from Rensselaer Polytechnic Institute which he received in 1951. He worked as an engineer between 1951 and 1954, and then entered law school.

Landa holds bachelor of fine arts and master of fine arts degrees from the Art Institute's Goodman Theatre.

-more-

Walker, who has taught philosophy at Purdue and Roosevelt Universities, received his master of arts in philosophy degree from the University of Chicago in 1959.

-30-

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OR RELEASE: IMMEDIATE

For further information on this release, contact:

Conrad E. Locander
CAlumet 5-9600, Ext. 74
Date Mailed: 11/15/61

CITY DUSTFALL INCREASES

CHICAGO, ILL. -- Rising for the second straight month, October total dustfall averages were 44.1 tons per square mile, according to Samuel Radner, research scientist at Armour Research Foundation of Illinois Institute of Technology.

The average was 14 per cent greater than measurements taken last September and 32 per cent greater than readings made in October of last year.

Although the highest reading for the month, 67.3 tons per square mile, was recorded at the State and Adams Street station, Radner said Loop averages showed a slight decrease from September readings. Averages for all Loop stations amounted to 60.1 tons per square mile.

The lowest October readings, taken at two stations on Pratt Avenue, were 28.5 and 28.6 tons per square mile, according to Radner.

NATURE CONFUSES MEASUREMENTS

"Due to the large number of leaves and insects which gather in the dust sampling jars during Autumn, measurement by chemical analysis becomes quite difficult", he said, adding that even though every precaution is taken to eliminate extraneous materials, small particles of leaves and oily material from the insects will cause a considerably higher count.

-more-

Add 1 - October dustfall

CHICAGO TOTAL DUSTFALL
Trends by Station
October, 1961
Tons Per Square Mile Per Month

Jar No.	Station Address	Readings in October, 1961	Sept. 1961	Oct. 1960
1	State and Adams	67.3	54.5	47.9
2	33 N. La Salle	52.9	69.1	84.3
	Loop Average	60.1	61.8	66.1
3	2135 S. Michigan	48.0	44.4	45.6
4	825 E. 44th	----	49.6	29.1
5	1362 E. 59th	35.2	28.2	28.9
6	7351 Stony Island	49.0	80.3	56.1
7	67 W. 113th Pl.	37.8	24.0	25.8
8	8858 Marquette	62.5	59.0	17.6
9	3105 W. 63rd	36.0	28.5	31.4
10	6140 S. Melvina	41.4	36.9	40.7
11	7559 Eggleston	33.1	23.4	21.8
12	1620 W. 99th	36.5	39.8	15.3
13	3608 Ogden	48.2	31.9	37.6
14	1500 W. Monroe	53.0	47.5	40.8
15	5055 Fulton	44.9	41.3	35.5
16	2940 W. Cortland	54.9	38.0	20.9
17	5602 Belden	30.0	30.5	26.7
18	3944 N. Sawyer	47.7	25.8	25.7
19	7350 Pratt	28.5	17.0	14.4
20	54 W. Hubbard	37.2	41.5	44.9
21	551 Grant Pl.	46.2	39.8	37.2
22	3532 Sheffield	----	40.2	48.8
23	1622 Pratt Blvd.	28.6	26.2	23.6
25	2240 W. 37th	67.0	33.1	32.8
Average (incl. Loop average)		44.1	38.6	33.3

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For further information on this release, contact:

James Stathas
CAlumet 5-9600, Ext. 745

Date Mailed: 11/15/61

OR RELEASE: Immediate

CHICAGO, ILL. -- An executive's time can be more efficiently used, and the number of his activities can be appreciably reduced if he categorizes his work in four ways: 1) Must do, 2) Should do, 3) Can do, 4) Should not do.

This was told to some 100 Chicago purchasing agents yesterday morning by William P. Stilwell, assistant director of the University of Wisconsin's Management Institute, who spoke before the 1961 Purchasing Workshop, held at Illinois Institute of Technology, November 14-15.

The U. W. educator recommended that "should" activities be done when "must" activities are completed, and that those listed as "can" be delegated to subordinates.

Reporting that efficient time usage by industry's top executives is today a problem of vital concern to management at all levels, Stilwell told the group that, "The only way you can begin to make efficient use of every hour of the day is to find out exactly what you have been doing--and you must find this by using a factual basis." He told the purchasing executives not to identify time studies only with shopworkers and also advised them to undergo some such studies, or to even keep detailed diaries.

After the executive knows what he has been spending his time on, Stilwell said activities can then be reduced and combined.

-more-

He urged those at the purchasing meeting to overcome reticence to delegate work to subordinates, for this is a major means of reducing their work load. He said there should be a recognization that much work can be done by subordinates, and recommended that his audience overcome fears of mistakes and also overcome their resistance to change. "Find out who can do the job," he said, "and then let him determine how to do it--he may be able to do it as well as or even better than you."

Much time, he said, is saved by combining like activities; phone calls should all be made at one time of the day, and the secretary can also hold incoming calls for a certain hour.

Stilwell also advocated the use of the coffee break as a way to raise work efficiency and production. He stated that scientific studies prove that the use of this stimulant increases efficiency to the extent that work gained far surpasses the time one takes for a coffee break.

The annual workshop is cooperatively sponsored by the business and economics department of Illinois Institute of Technology, and the professional development committee of the Purchasing Agents Association of Chicago.

rom
LINOIS INSTITUTE OF TECHNOLOGY
35 WEST 33RD STREET TECHNOLOGY CENTER CHICAGO 16, ILLINOIS

November 16, 1961

Public Relations
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Armour Research Foundation
of Illinois Institute of Technology
Institute of Gas Technology

For further information on this release, contact:

M. T. Noar
CA 5-9600, Ext. 744

RELEASE: IMMEDIATE

CHICAGO, ILL.--Improved welding techniques for missile development, nuclear power plants, and for automotive assembly lines will highlight the program of the 8th Annual Midwest Welding Conference here, Jan. 31 and Feb. 1, 1962.

With more than 300 leading welding engineers and researchers expected to attend, the two-day conference will be held at Technology Center on the campus of the Illinois Institute of Technology. It is sponsored each year by the Armour Research Foundation of IIT and the Chicago Section of the American Welding Society.

The conference provides a forum where researchers and welding engineers are given the opportunity of learning the latest welding developments and techniques from industry and military authorities.

Major topics to be discussed include the following:

Welding techniques employed in the production of the Polaris missile will be related in a talk to be given by Leo Shapiro and George Allen of Lockheed Aircraft Corp., and by Robert E. Anderson of the Aerojet-General Corp.

"Reasons and Requirements for Nondestructive Testing and Welds" will be the topic of a paper to be given by Jay Bland of the General Electric Co. Bland is Manager of Welding Engineering at GE's Knolls Atomic Power Laboratory.

-more-

In another paper, the increasing requirements for advanced welding techniques in manufacturing industries will be treated by James W. Mitchell of the Welding Development Department of the Ford Motor Co. Mitchell will discuss "Galvanized Steel Welding in Automotive Assembly."

Inquiries concerning the conference should be addressed to John F. Rudy, supervisor of welding research, Armour Research Foundation, 10 West 35th Street, Chicago 16, Illinois.

PROGRAM

8th ANNUAL MIDWEST WELDING CONFERENCE

Wednesday, January 31, 1962

8:00 Registration

MORNING SESSION

CHAIRMAN: Chris Floyd, Manager
Welding and Metallurgical Research
Graver Tank and Manufacturing Company
East Chicago, Indiana

9:00 "AN ENGINEERING APPROACH TO WELDING"
Julian Kobler, Chief
Fabrication and Assembly Engineering Branch
Army Ballistic Missile Agency
Redstone Arsenal, Huntsville, Alabama

10:00 "WHAT SHOULD BE DONE ABOUT WELDING STANDARDS?"
James F. Lincoln
Chairman of the Board
The Lincoln Electric Company
Cleveland, Ohio

11:00 "WELDING ARC REQUIREMENTS AND POWER SOURCE DESIGN PARAMETERS"
G. K. Willecke
Director of Research
Miller Electric Manufacturing Company
Appleton, Wisconsin

--more--

AFTERNOON SESSION

CHAIRMAN:
Donald C. Buffum, Chief
Metals Joining Branch
Watertown Arsenal
Watertown, Massachusetts

2:00 "CO_2 WELDING OF PRESSURE PIPING SYSTEMS"
Raymond H. Hoefler
Chief Welding Engineer
Kaighn and Hughes, Inc.
Toledo, Ohio

3:00 "REASONS AND REQUIREMENTS FOR NONDESTRUCTIVE TESTING OF WELDS"
Jay Bland, Manager
Welding Engineering
Knolls Atomic Power Laboratory
General Electric Company

4:00 "GALVANIZED STEEL WELDING IN AUTOMOTIVE ASSEMBLY"
James W. Mitchell
Welding Development Department
Ford Motor Company
Detroit, Michigan

Thursday, February 1, 1962

MORNING SESSION

Panel Discussion
Electron Beam Welding

MODERATOR:
W. L. Wyman
General Atomic Division
General Dynamics Corp.
San Diego, California

E. A. Franco-Ferreira
Metallurgy Division
Oak Ridge National Lab.
Oak Ridge, Tennessee

PANELISTS:
Robert E. Roth
Allison Engineering Division
General Motors Corp.
Indianapolis, Indiana

J. A. Stohr, Chief
du Service de
Technologies
French Atomic Energy
Commission
Saclay, France

William Frankhouser, Supv.
Alloy Fuel Group
Bettis Atomic Power Lab
Westinghouse Atomic
Pittsburgh, Penn.

William Farrell
Chief Applications Engr.
Sciaky Brothers
Chicago, Illinois

-more-

William Greene
Central Research Labs.
Air Reduction Company
Murray Hill, New Jersey

AFTERNOON SESSION

CHAIRMAN: Peter Patriarca
Metallurgy Division
Oak Ridge National Laboratory
Oak Ridge, Tennessee

1:45 "POLARIS MISSILE WELDING"
L. Schapiro, R. E. Anderson and G. Allen
Lockheed Aircraft Corporation
Aerojet-General Corporation

2:45 "HIGH FREQUENCY RESISTANCE WELDING OF PIPE"
Robert Wymer, Manager
Production and Planning
Tubacero, S. A.
Monterrey, N. L., Mexico

3:45 "FRICTION WELDING"
Milton B. Hollander, Manager
Mechanics Research Group
American Machine and Foundry Company
Springdale, Conn.

from

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Institute of Gas Technology

For further information on this release, contact:

James Stathas
CAlumet 5-9600, Ext. 745

R RELEASE: IMMEDIATE

Date Mailed: 11/22/61

CHICAGO, ILL. -- A session devoted to operation experience in the Dresden Nuclear Power Plant will highlight the 1962 American ower Conference, to be held at the Sherman Hotel, Chicago, March 27, 8 and 29.

In addition to nuclear power, sessions will concern: solutions o air pollution problems connected with large steam power plants; entral station power plants employing fluids other than steam; uels used to produce power; and high voltage transmissions of power.

Featured for the first time at the American Power Conference ill be two sessions on "How the field of power engineering can be dvanced in our colleges and universities."

Expected to attend the conference, sponsored by Illinois Institute of Technology in cooperation with nine national technical societies nd 14 universities, are more than 3,000 industrial and electric tility executives, engineers, educators and government officials.

Registration information can be obtained by writing to: r. R. A. Budenholzer, Director, American Power Conference, Illinois Institute of Technology, Chicago 16, Illinois.

-30-

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James Stathas
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R RELEASE: IMMEDIATE

November 28, 1961

CHICAGO, ILL.--The Illinois Tech cagers will begin the 1961-62 season December 5 facing the loss of its second highest point producer in the team's history.

Meeting the Navy Pier squad in the opening game at IIT, even with the graduation of high scoring 6'3" John Olin, coach Ed Glancy will have six returning lettermen who led the team in capturing the Rochester Tech (N.Y.) tournament title and gaining a 15-7 record last season.

The Techawk team this year will be captained by John Bagley, 6'2" guard from Quigley, whose play-making ability led the team to numerous victories last winter.

Also tentatively named to the starting five are forwards Nick Mathys, 6'3" from De La Salle, and 6'4" St. Ignatius star Dan Benevich; at center will be 6'4", 200 pound, Tom Seibert, letterman from De Paul Academy; and Bagley's partner at guard will be 6'3" sophomore Jack Waeltz.

All home games will be played at the IIT gymnasium, 32nd and Dearborn Sts., beginning at 8:00 p.m. The 1961-62 schedule:

December 5 University of Illinois (Chicago).........Home

-more-

Add 1--Basketball Schedule

December 9	Chicago Teachers College (Homecoming)	Home
December 13	St. Ambrose College	Away
December 15	Lewis College	Home
December 28, 29,30	Holiday Tournament at Rochester Institute of Technology, Rochester, N. Y.	Away
January 6	Loras College	Home
January 9	University of Illinois (Chicago)	Away
January 13	Aurora College	Away
January 31	University of Chicago	Away
February 2	St. Ambrose College	Home
February 6	Elmhurst College	Home
February 9	Detroit Tech	Home
February 13	Aurora College	Home
February 15	Wheaton College	Away
February 17	Loras College	Away
February 21	Lewis College	Away
February 23	Mac Murray College	Away
February 26	University of Chicago	Home
February 28	Chicago Teachers College	Away

FACT SHEET

SURVEY OF ATTITUDE TOWARD FALL OUT SHELTERS AND THE STATE OF PRESENT WORLD CONDITIONS

GENERAL SUMMARY OF FINDINGS

Most families surveyed consider present world affairs to lean toward the serious side.

The two most frequently mentioned world problems are (1) programs to prevent nuclear war; and (2) helping nations stay free in order to resist the advance of communism.

More families indicate that in the near future (3 years) that world tensions will remain at their present level, than increase or decrease.

The vast majority of families interviewed feel they are more concerned with world problems today than 3 years ago.

According to the families surveyed most families believe a nuclear war within their life time is a realistic possibility.

Within the past 60 days, more than half of the families in the survey discussed how to survive a nuclear attack.

Most families felt survival would be worthwhile if a nuclear attack took place.

Most families felt that survival is possible. Community shelters were mentioned more frequently than any other type of shelter construction.

The survey indicates that 9% of the families interviewed were considered at the time of the interview, to be seriously thinking building a fall out shelter if world tensions were to stay at their present levels.

FACT SHEET

SURVEY OF ATTITUDES TOWARD FALL OUT SHELTERS AND THE STATE OF PRESENT WORLD CONDITIONS

What the survey is about: The survey was undertaken to measure attitudes toward fall out shelters and public opinion concerning the present state of world conditions.

Who was involved: 93 Chicagoland suburban homeowning families were personally contacted and given a depth type interview to reveal their "deep-seated" feelings toward these timely topics

Why the study was undertaken: The objective of the study was three fold. First it was to provide qualitative data concerning family attitudes to the above topics. Second it served as a pilot study to determine whether or not families are willing to discuss such topics, and the feasibility of the measurement techniques needed to gather such data. Third the study was also utilized as a teaching method to acquaint students enrolled in a research course as to the problems and methodology encountered in research surveys. In addition an even more underlying aspect was attached to the study. It was to provide qualatative data on such timely topics, on which few investigations have been undertaken.

When the study was made: During the period of November 11-18, 1961, personal interviews were conducted.

Where: Personal interviews were conducted in the communities of Evanston, Skokie, Morton Grove, Niles and Lincolnwood, Illinois.

How: The above communities which are located in Evanston and Niles townships of Cook County are the universe for the survey.

To assure validity and reliability these townships were divided into 10 areas. From Each area a sub sampling of blocks were selected by a random process. Families on the selected block were selected and given a depth type interview. These personal interviews were conducted by the students registered in the research course of the Institute under the supervision of the course instructor M. R. Robinson.

Qualifications of Personnel The project was designed under the supervision of M. R. Robinson, a specialist in the field of socio-economics behavioral sciences. Mr. Robinson is currently offering a course in Marketing Research at Illinois Institute of Technology. All interviewers were given pre-field work training to eliminate interview bias.

from
LINOIS INSTITUTE OF TECHNOLOGY
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Institute of Gas Technology

For further information on this release, contact:

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CAlumet 5-9600, Ext. 745

R RELEASE:

IMMEDIATE

November 30, 1961

A full-fledged dramatic program is in progress at Illinois Institute of Technology for the first time in nearly four years.

The IIT players, under the direction of drama teacher Harvey Landa, will present their first production December 1-2, beginning each evening at 8:30, in Illinois Tech's new union building auditorium, 40 W. 33rd St. The play, "The Love of Four Colonels," is a satire on the traditional Sleeping Beauty story, and was written by Peter Ustinov, author of "Romanoff and Juliet." It involves four contemporary army colonels; an American, Russian, Englishman, and Frenchman, who try to seduce the sleeping beauty according to the wishes of a wicked fairy, and in spite of a good fairy's protests.

New facilities made available through construction of the $3 million union building, allowed the Institute to again initiate a dramatic program which would offer presentations to the public. A number of plays will also be presented by the new group this spring.

Landa, who joined IIT in September, received both his bachelor and master of fine arts degrees from the Art Institute's Goodman Theater, and has had both amateur and professional experience. Besides directing the drama group, he conducts dramatic workshops and teaches speech at Illinois Tech.

-more-

Add 1 -- "The Love of Four Colonels"

Tickets for the production Friday and Saturday nights, at $1.25, can be purchased by telephoning the IIT ticket office, Calumet 5-9600, extension 2780.

-30-

TOMORROW'S MANUFACTURING METHODS TODAY

THE APT LONG RANGE PROGRAM

ARMOUR RESEARCH FOUNDATION
OF ILLINOIS INSTITUTE OF TECHNOLOGY
CHICAGO, ILLINOIS

For Further Information:

Mike Noar
CAlumet 5-9600, Ext. 744

AUTOMATICALLY PROGRAMMED TOOLS

APT is a means for efficient and accurate communication with automatic machine tools. An abbreviation for Automatically Programmed Tools, APT allows simple English language statements to describe complex machining operations for numerically controlled machine tools through use of a general-purpose digital computer. The computer translates APT statements into a set of punched tape instructions which direct numerically controlled machines in cutting metal parts.

LONG RANGE PROGRAM

The APT long range program is a research and development project conducted by Armour Research Foundation for many participating corporations aimed at fully exploiting use of APT and numerical control in the many facets of U.S. industry. Principal among the benefits accruing to participating companies are the following:

ARF instruction in use of APT and continued development of numerical control technology within a company.

Central maintenance and updating of the Apt system by Foundation staff members and prompt dissemination of system changes to participating organizations.

Improved means of manufacture through use of the revolutionary APT methods and extensions of these techniques to other production processes.

-more-

PAST, PRESENT, FUTURE

The APT system originated at the Servomechanism Laboratory of M.I.T. in 1952 in a pilot model study under sponsorship of the Air Force. In 1955, a proto-type APT system was coded for the Whirlwind Computer to demonstrate feasibility. This rudimentary version required the part programmer to specify the end points of each straight line cut to be performed by the machine tool.

Development of an acutal working model was undertaken in 1957 in a joint effort on the part of member organizations of the Aerospace Industries Association (AIA) under the coordination of M.I.T. This activity resulted in the 1958 release of a program for the IBM 704 computer, which was designated the APT II, Phase I system. This system relieved the part programmer of the responsibility of computing successive cutter locations approximating a desired space curve and enabled him to describe the curve in a natural computer language resembling common English.

In June of 1958, coordination of this joint effort was assumed by the APT Project Coordination group of the AIA Numerical Panel, and a considerably improved version of the system, designated APT II, Phase II, was released in June of 1960. Programmed for the IBM 709 and 7090 computers, this system has been used with considerable success by many aerospace companies.

The APT III system, a December 1961 release, is a more sophisticated version of the system and contains many new features. It was the result of cooperative effort on the part of AIA member companies.

-more-

In September of 1961, the Aerospace Industries Association selected Armour Research Foundation to assume full responsibility for APT III after December and to direct its future course in the APT Long Range Program. The Foundation technical staff is now pursuing the further development of APT and expansion of APT and expansion of APT capabilities to realize fully all the benefits this system holds in store for improving manufacturing methods.

-more-

TABLE I

Part Program	Explanation
CUTTER/1 $$ 1 inch in Dia	Use a flat end cutter of 1 inch diameter
TOLER/.005	Tolerance is .005 inches, i.e., cut all curves such that the deviation between the desired curve and actual cut does not exceed .005"
FEDERAT/80	Cut all lines at a feedrate of 80 in/min
HEAD 1, MODE 1, ON SPIN, ON KUL	Use head number 1, operating in mode number turn on spindle, and turn on coolant flow
PT 1 - POINT /4,5	Define a reference point, PT 1, as that point with coordinates (4,5)
SET PT = FROM, POINT/1,1	The starting point of the tool, called SET PT, will be the point having Coordinates (1,1)
TIP = IN DIR, POINT/1,3	Aim the tool from the point (1,3); call this point (1,3) by the name TIP
BASE = GO TO, LINE/TIP, AT ANGLE, O	Go in a straight line through TIP which makes an angle of zero degrees with the positive x axis, giving this line the name BASE.
GO RGT, TL RGT/BASE	With the tool on the right hand side, go to the right along the line BASE
GO FWD, ELLIPS/CENTER, PT 1,3,2,0	When the tool reaches the ellipse, whose numerical parameters are: center at PT 1, set major axis = 3, semi-minor axis = 2, angle of the major axis with the x axis = 0, go forward along the ellipse, still keeping the tool to the right hand side.
SLANT = GO LFT, LINE/2,4,1,3	When the tool reaches the line through the points (2,4) and (1,3), go left along the line, keeping the tool on the right. Call this line by the name SLANT.
GO LFT/SLANT, PAST, BASE	Go left on SLANT until the tool is past the line BASE
GO TO/SET PT	Then go in a straight line to the original starting point, SET PT
OF KUL, OF SPIN, END, FINI	After SET PT is reached, turn off coolant flow, this is the end of the machine tool director operation and the finish of the part program

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from
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For further information on this release, contact:

Conrad E. Locander
CAlumet 5-9600, Ext. 745

~~IMMEDIATE~~

R RELEASE: Sunday, Dec. 3

CHICAGO, ILL., Dec. 3 -- Plans for a coordinated $1.25 million construction research program were released today by Armour Research Foundation of Illinois Institute of Technology.

Providing the construction industry with complete facilities, a Building Technology Center has been instituted to conduct research on the development of new building materials, methods of application, design, fabrication and material logistics for contractors, engineers, architects and material manufacturers.

Because the physical plant and staff necessary to undertake the program are already available at Illinois Tech and the Foundation, all funds can be concentrated on research at the Center.

Referring to a Department of Commerce forecast of $60 billion in construction by 1962 and $100 billion by 1975, John M. Neff, assistant director of the Ceramics and Metals Research Division at ARF, said the need for construction research has never been so great as it is today.

"Notwithstanding the fact that the construction industry has grown from a $7 billion industry in 1936 to nearly $60 billion per year, still less than one per cent is being invested in construction research and development", Neff said. He encouraged the industry to "invest wisely through collective construction research in order to assure a more stable future for the industry".

-more-

Neff, a member of the Materials Advisory Board and Building Research Institute of the National Academy of Sciences, and the National Research Council, has spearheaded research in many construction problems for the past 15 years.

"Because so many arts, trades and sciences go into the making of a modern structure, cooperative research by various individual groups has thus far been considered impossible", Neff said, adding that Center will serve to coordinate various units in the industry to the whole problem of construction.

PLAN COMPLETE FACILITY

The Center already operates modern facilities, which include a Materials Stress Analysis Laboratory, the most complete lightweight concrete facility in the middle west, seven interrelated research divisions, and the technical abilities of 600 scientists, architects, and engineers. Also included in the plans for the Center will be the facilities of Illinois Institute of Technology; the School of Architecture, Institute of Design, Departments of fire protection and safety engineering, Civil Engineering, Mechanical Engineering and others.

Construction firms will be provided with the latest trends in prefabrication, simplified form work, material delivery logistics, jointing and anchorage systems, new materials and composites, and the use of fasteners and contact adhesives.

Materials manufacturers and suppliers will get firsthand information on the uses of lighter structural materials, new laminates and composites, off-site assembly and new uses for waste products.

-more-

Architects and designers will benefit from advanced knowledge on the development of new structural forms, advanced design techniques, improved methods of construction, mechanical services, and specifications.

As the Center broadens its scope of activities, Neff said sociological and functional aspects of building will come under observation along with Land Planning.

In addition to the broad treatment of the building industry, unique structural problems for individual contractors and the development of customized materials for specific jobs will be a significant function of the Center.

Neff explained several problem areas where ARF fundamental research led to the development of new materials from waste products, better construction techniques and increased sales.

Typical among many examples was the development of light weight marble curtain walls for the National Association of Marble producers. Faced with new architectural concepts, marble producers needed a way to lighten the load of the time-honored material so that it could be used in steel frame construction.

The solution to the problem lay in finding a way to cut down the weight of marble by using it in sandwich slabs with other building materials. A method of fastening the slabs of marble to exterior walls was also researched and today is leading to increased marketability of the product.

In the area of structural steel and metals research, Neff cited an example of research conducted with U. S. Steel Corporation to investigate the suitability of steel H-beam bearing piles for foundation construction of a skyscraper in Chicago's Loop area.

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"Research for the Structural Clay Products Research Foundation led to the development of brick masonry walls that were compatible with similar frame dwellings to within $30 of the sale price", Neff said.

Other past and current sponsors of construction research projects include: Dow Chemical Company, Celotex Corporation, American Rock Wool Corporation, Chicago Housing Authority, Cambridge Tile Manufacturing Company, Material Service Corporation, Portland Cement Association, Tectum Corporation and the Commonwealth Edison Company.

Program coordinator for the Center is Orville T. Barnett, assistant director of Metals Research at Armour Research Foundation.

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RELEASE: Monday, December 4, 1961

CHICAGO, ILL., Dec. 4-- A Chicago research organization was named today by the Aerospace Industries Association to direct the nationwide activities of their Automatically Programmed Tools (APT) program.

The Armour Research Foundation of Illinois Institute of Technology will be responsible for the operation and development of the long range program which services both government and industry, it was reported today by Dr. Haldon A. Leedy, ARF director.

Designated as the APT Long Range Program, the program provides an efficient and easy to learn method of controlling numerical machine tools for production of vital parts, tools and dies.

Under the Foundation direction, Leedy pointed out, the APT program will provide the benefits of computer and numerically controlled machine tools research to American industry in general, and will aid in the development of manufacturing methods to assist in the mobilization of industry for the defense of the United States.

The Armour Research Foundation will, furthermore, provide adequate facilities for investigating, analyzing, and exploiting new discoveries in computer applications relating to manufacturing methods, Leedy added.

-more-

The APT system consists of a series of computer programs developed to eliminate tedious and time-consuming manual operations, Leedy pointed out. A digital computer is used to translate English language statements which define the tool path to a sequence of instructions for the machine tool on perforated tapes.

The tapes, containing data that the machine tools can understand, are then fed to the machine tool and it is then directed to produce the desired part, he added.

Under the program personnel of participating industries receive training from the Foundation in the APT computer language. In addition, each participant receives monthly progress reports, summary technical reports, training manuals, and the opportunity of participating in at least two technical meetings each year. An updating in the computer program is maintained as changes occur.

The fee for each organization is $15,000 for a 16-month period, according to Leedy. Each additional division of parent companies already in the program and all government organizations may participate for $5,000.

APT is not new, having been developed at the Massachusetts Institute of Technology several years ago under the sponsorship of the U. S. Air Force.

For the past four months, ARF personnel have been working closely with the present APT III staff in San Diego, effecting the changeover which takes place the latter part of December.

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At the present time, the program consists of 15 participants including:

- Rohr Aircraft Corporation
- Lockheed Aircraft Corporation
    - Lockheed Georgia Company
    - Lockheed Missiles and Space Company
    - Lockheed California Company
- General Dynamics Corporation
    - General Dynamics/Fort Worth
    - General Dynamics/Convair
- Mc Donnell Aircraft Corporation
- Aerojet-General Corporation
    - Sacramento Division
- Grumman Aircraft Engineering Corporation
- General Motors Corporation
    - Allison Division
- Republic Aviation Corporation
- Ryan Aeronautical Company
- The Boeing Company
    - Aerospace Division
    - Transport Division
    - Wichita Division
- Northrop Corporation
    - Norair Division
- The Marquardt Corporation
- Douglas Aircraft Corporation
- The Bendix Corporation
    - Industrial Controls Section
- Ling-Temco-Vought, Inc.
    - Aeronautics and Missiles Division

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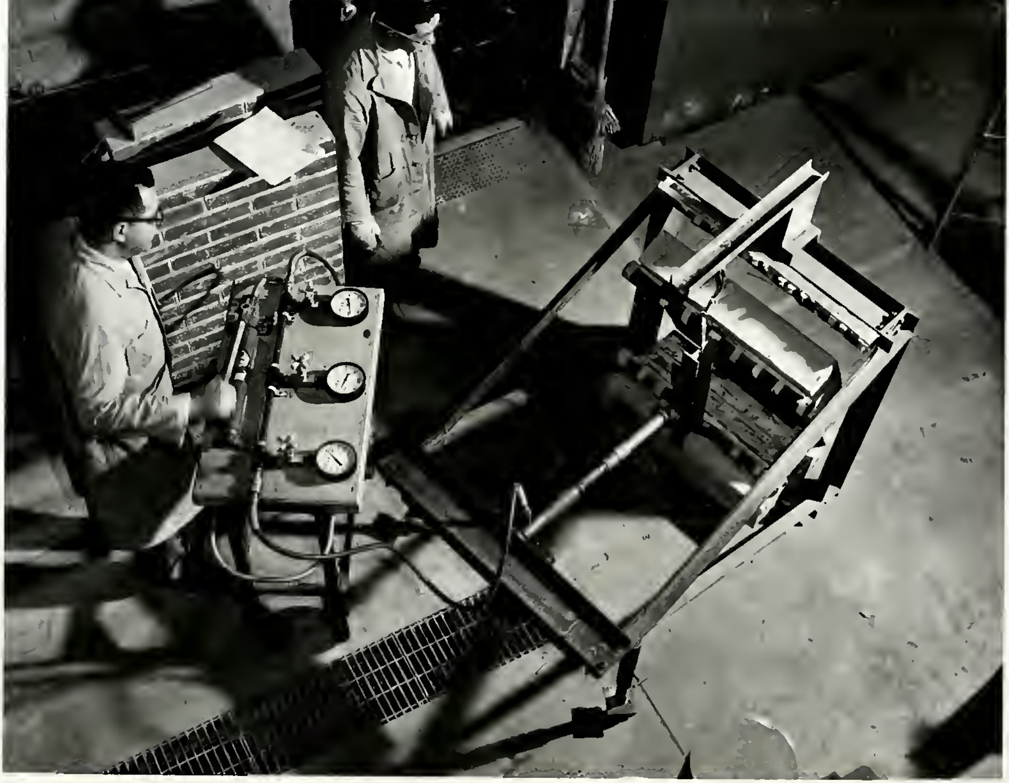

CERAMICS LABORATORY studies possibilities of new materials, methods of construction and application. Here, prestressed masonry wall undergoes study to determine its flectural strength.

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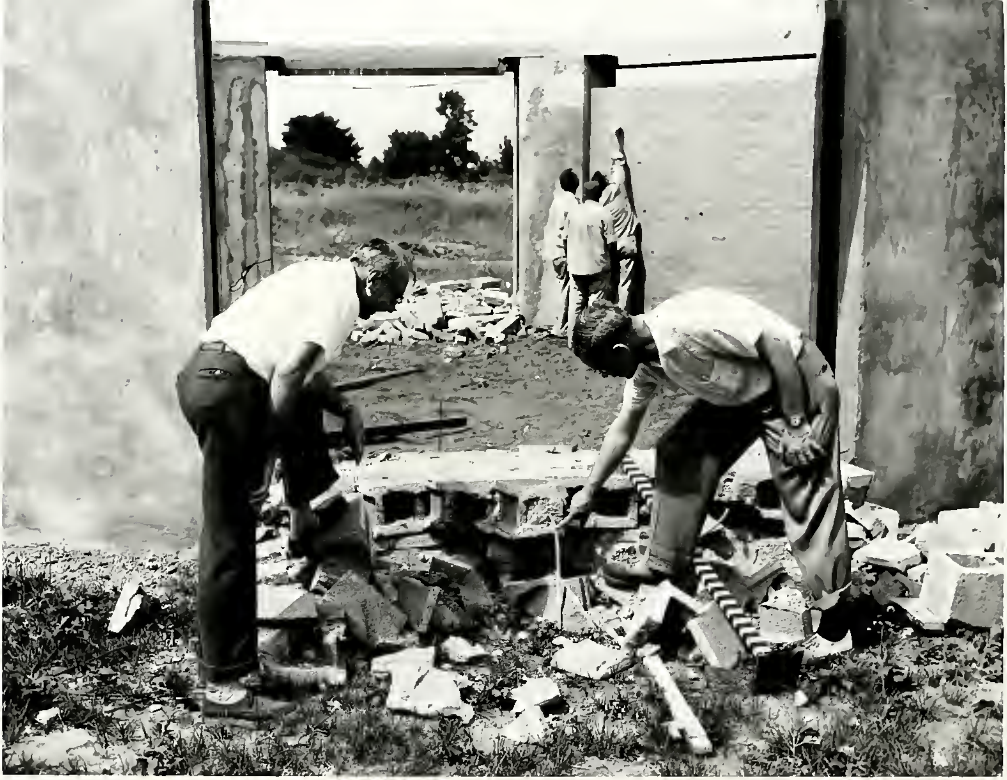

FIELD WORK - Mockup explosion studies are conducted by ARF in the field to determine effects of blast on various types of construction.

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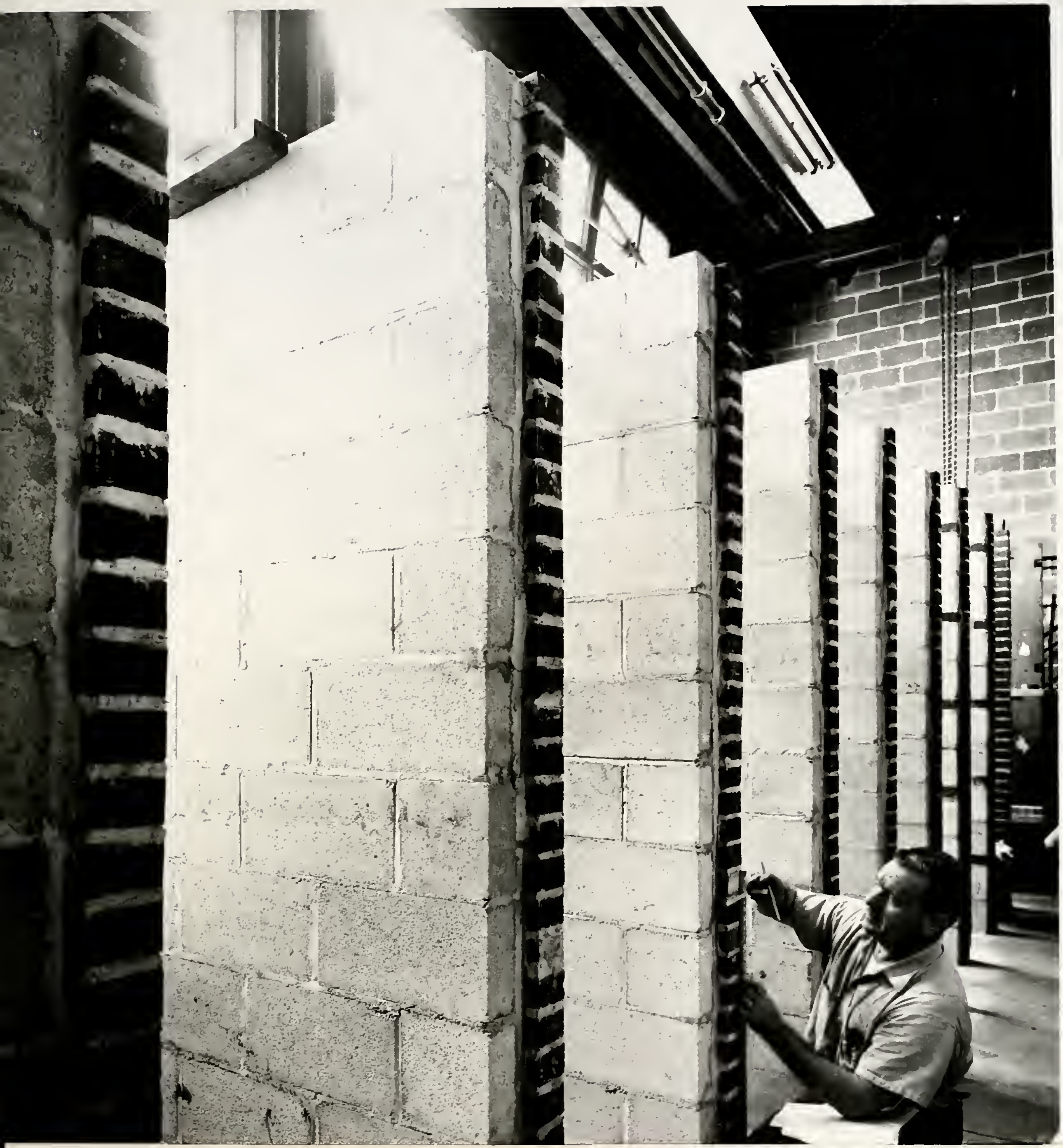

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A series of full scale test walls are studied by ARF scientists for comparison between wire wall tie construction and traditional break header joints.

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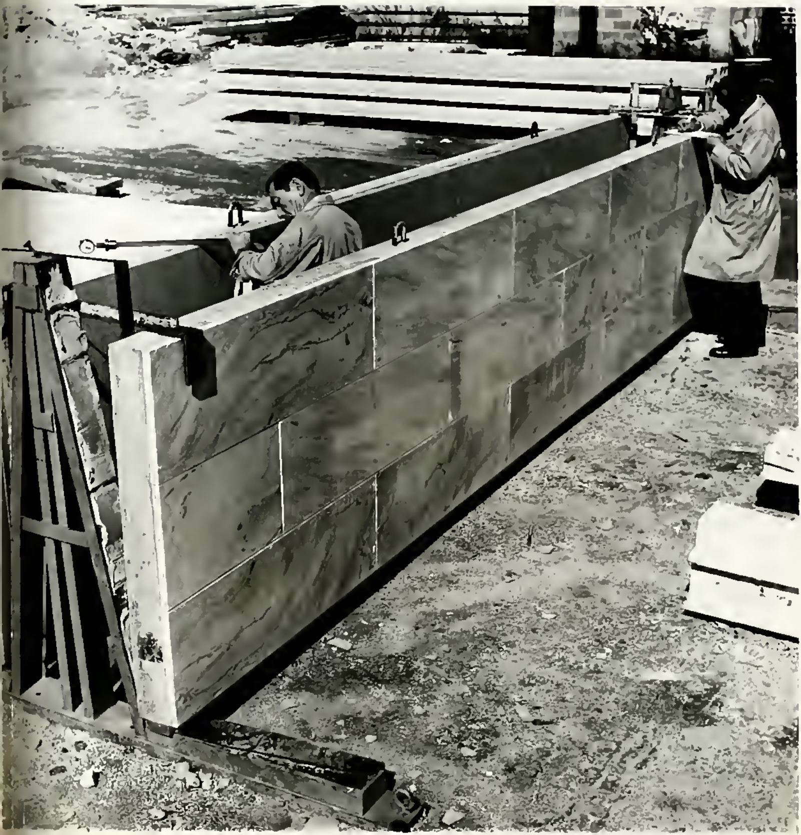

MARBLE HALLS TO MARBLE WALLS - ARF studies include prefabrication methods. Shown here is work on prefabricated marble veneer wall paneling, under investigation at ARF by the National Association of Marble Producers.

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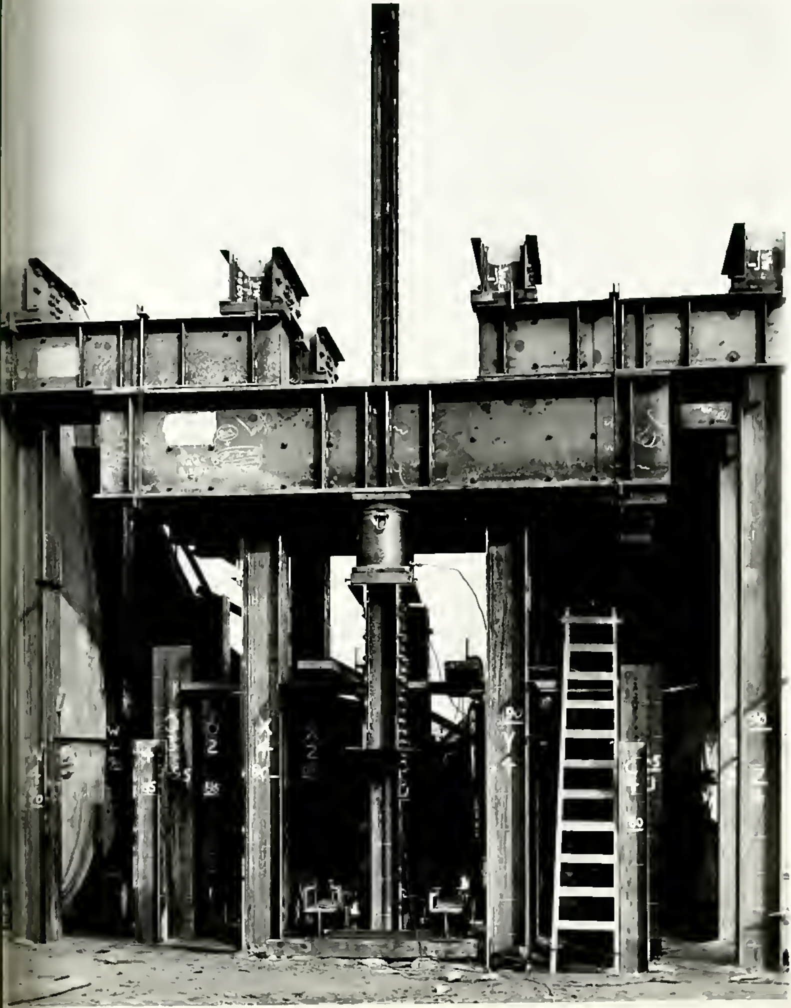

ARMOUR RESEARCH FOUNDATION investigates the suitability of steel H-beam bearing piles for construction of a skyscraper foundation in the Chicago Loop area. The study was conducted for U. S. Steel Corporation.

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R RELEASE: At Will

December 5, 1961

Common household products such as aspirin, rubbing alcohol, lubricating oils, paints and plastics would not be possible if scientists didn't take bubble blowing and liquid drop studies seriously.

The federal government, through its National Science Foundation agency, also believes experiments with bubbles and drops constitute serious business. Testifying to its concern, the National Science Foundation has granted $25,800 to an Illinois Tech scientist, Dr. Robert C. Kintner, IIT professor of chemical engineering, so that he could continue the work he has been doing at Illinois Institute of Technology since 1949.

In the NSF program, officially called "The Motion of Liquid Drops in a Countercurrently Flowing Liquid Field," Kintner and a succession of graduate students have been injecting various sizes and shapes of drops into a field of differing liquid, and charting the progress of the drop or bubble as it flutters upward or falls downward through the liquid.

The main purpose of the work is to obtain better understanding of the nature of drops during their formation, growth and travel through a liquid. From this knowledge, more effective industrial and scientific equipment is designed. These studies are necessary because somewhere in the chain of operations in

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the manufacture of almost all organic compounds, a point occurs where gas-liquid or liquid-liquid contacting must be effected.

The manufacturer's objective of injecting a different liquid or bubble into another liquid may be to bring about a chemical reaction; to bring materials together to effect mass transfer; to separate products to get a pure substance; or even to merely mix the liquids.

Oil refiners, for instance, separate petroleum into gasoline and other products by bubbling vaporized light hydrocarbons through the heavier liquid ones in a process called "distillation". Bubble data can tell them how large the vapor bubbles should be for most efficient production.

The chemical compounds produced by bubble or liquid drop technology, generally speaking, are not sold to the man on the street, but constitute materials from which consumer products are manufactured. Some of these products, in addition to those already mentioned, are rayon, nylon, dacron, lard, beer, dynamite, rubber, penicillin, anti-freeze, and marashino cherries.

In actual production of the organic chemical compounds, the liquid used is in dispersed phases of streams and clouds. But experiments like Kintner's are highly valued by most scientists and engineers who agree that the best permanent foundation upon which to base design and operating calculations will come from a more complete knowledge of what happens to single bubbles and drops--and then extend such knowledge to streams and clouds of bubbles and drops.

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For this reason, if you walk into Illinois Tech's chemical engineering department laboratory, you'll probably find Kintner sitting on a step ladder watching bubbles or drops he's just injected move through a tube of some mysterious looking liquid--or you may find him taking movies or stills of the "motion of liquid drops moving through a liquid field."

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R RELEASE: Wednesday,
December 6, 1961

NEW GAGE DEVELOPED FOR SHOCK TUBE
STUDIES INDICATE IONIZATION EFFECTS MAJOR
FACTOR IN REENTRY HEATING

CHICAGO, ILL., Dec. 6 -- An improved heat transfer gage which extends the range of shock tube thermal measurements has been developed at Armour Research Foundation of Illinois Institute of Technology.

Used in studies on stagnation heating during reentry in air for altitudes greater than 200,000 feet and speeds equivalent to 30,000 feet per second, the new gage substantiates the work of East Coast scientists that heat transfer is significantly increased due to the presence of ionized gases.

Dr. David S. Hacker, senior scientist at ARF, working with Dr. Lennox Wilson and Mr. Imants Reba on the project, said a major problem in the study of stagnation heating was to separate the contribution to heating by ionized gases from classical convective heat transfer which is based on frictional heating alone.

The contribution due to ionized gases appears to be approximately two times greater than previous calculations which employed extrapolation of data for ballistic reentry at lower speeds.

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Add 1 -- Heat Gage

In the task, Reba was able to develop the new modified film gage that serves to neutralize the ionized component. Thus, two measurements can be made; the total heat flux to the body, and the purely convective flux. The difference between the two is made up of all other effects which include heating from radiant, chemical and ionization sources. The contributions of the first two sources are small in comparison with ionization effects.

The improved heat transfer gage extends the range of shock tube thermal measurements to Mach 30 and pressures of about 0.1mm, lower than previously achieved with conventional thin-film thermometers. Simulated missile and other high-speed flights can therefore be evaluated at flow regimes where appreciable ionization occurs.

In addition, the gage is sensitive to within ±10% of the detected heat flux as compared to present ±30% sensitivities, since no insulating coating is required to shield the gage from ionization and chemical surface effects. Having a fast response time of 2-3 microseconds and high durability, the gage allows for accurate calibration. Short time measurements are therefore assured.

The gage is a refinement of the thin-film platinum gage which is linked to a Langmuir probe. The probe is placed in front of the gage, eliminating stray electrical currents which result from ionized flow of gases, much like a lightning rod. Yet, it is small enough not to disturb the flow field about the model.

-more-

Investigation of plasma contributions to the stagnation heating problem is only one of the uses of the gage. In addition, the radiation effect for various body configurations is being sought. Preliminary results indicate that at the expected flight conditions, radiation becomes more important. One major difficulty encountered is the fact that the air no longer radiates an equilibrium mixture, but actually radiates as if the gas were at a higher temperature.

"Earlier radiation investigations, which were made behind the normal shock in the shock tube have been leading to difficulty in measuring accuracy," Hacker said.

"The difficulty with these measurements was the inability to separate the large concentration of impurities generated at the wall of the shock tube during the passage of the hot gas. The superposition of these radiating impurities on the gas radiation made an accurate assessment of the flow difficult."

Measurements now being conducted at ARF overcame this problem by mounting a transparent window in the stagnation region of the model over which the flow is to be studied. The model is no longer in the region of wall impurities and "sees" the gas glow of interest.

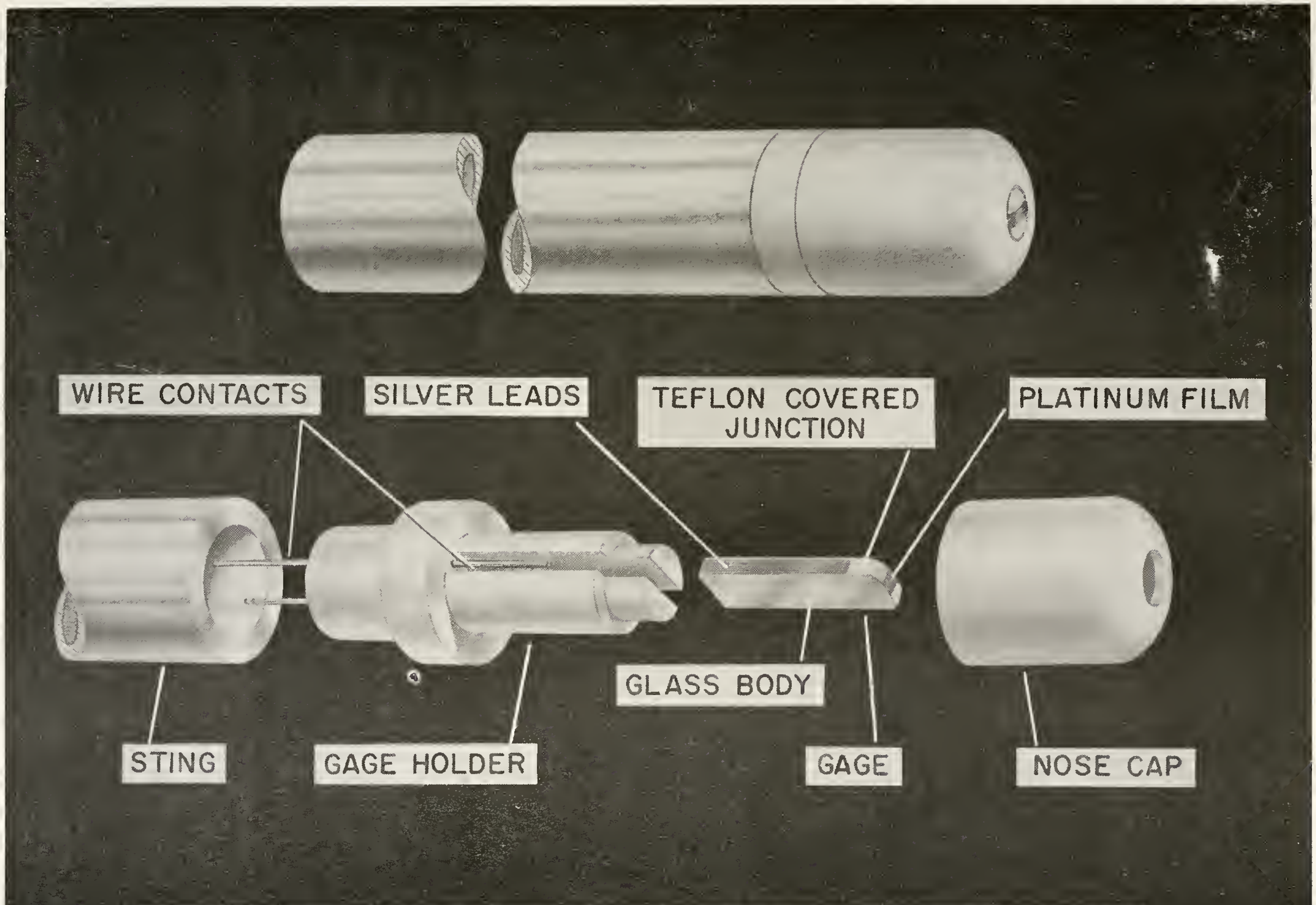
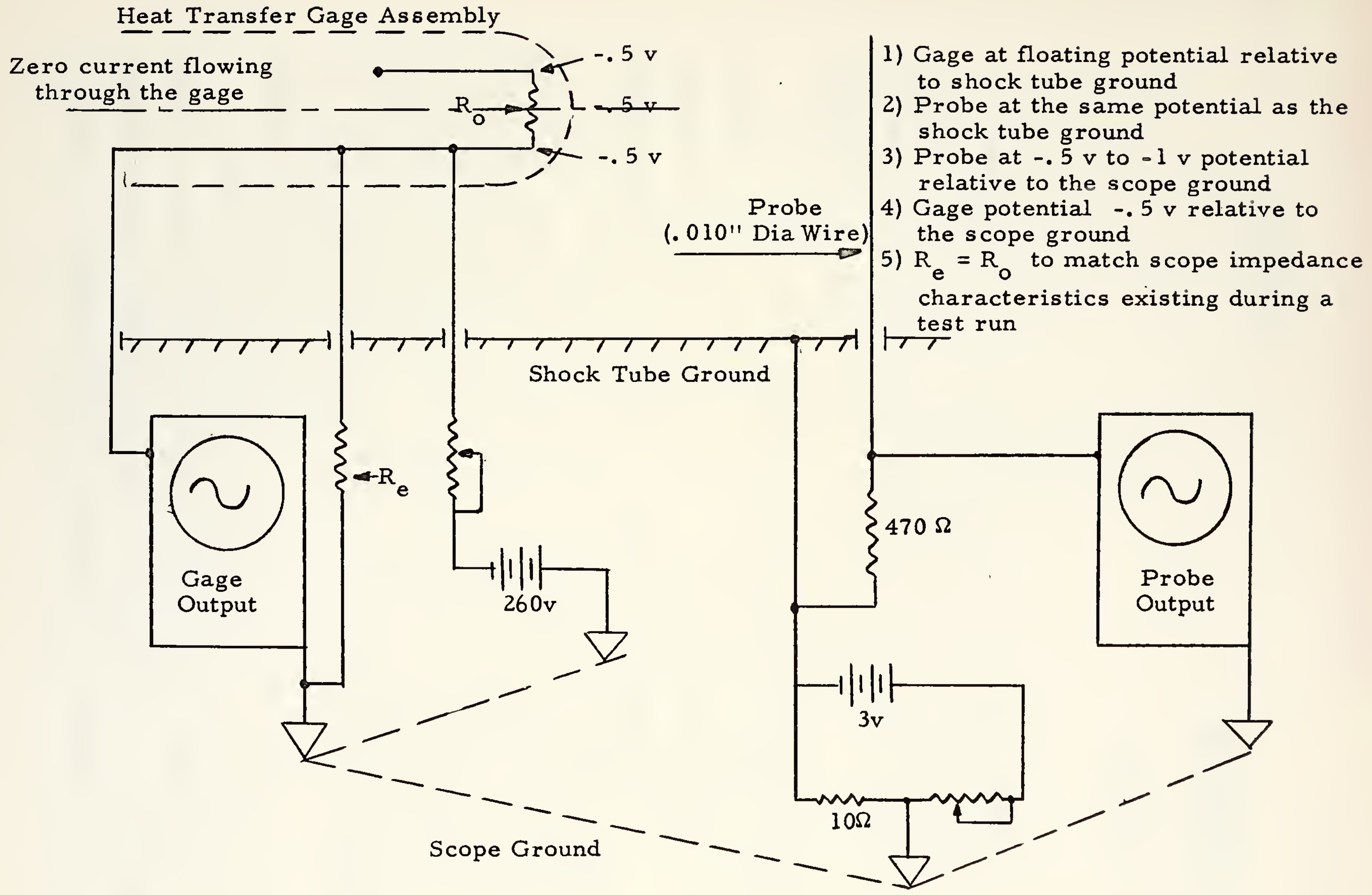


Fig. 2 3/8" DIAMETER TEFLON HEMISPHERE CYLINDER AND HEAT TRANSFER GAGE ASSEMBLY



1) Gage at floating potential relative to shock tube ground
2) Probe at the same potential as the shock tube ground
3) Probe at -.5 v to -1 v potential relative to the scope ground
4) Gage potential -.5 v relative to the scope ground
5) $R_e = R_o$ to match scope impedance characteristics existing during a test run

GAGE CIRCUITRY USED TO CHECK REQUIRED GAGE AND PROBE POTENTIALS

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OR RELEASE: IMMEDIATE

December 6, 1961

CHICAGO, ILL.--A $44,400 grant has been awarded to the Illinois Institute of Technology by the National Science Foundation for continued research on the reaction of polyatomic molecules to light, it was announced today.

The light-study of polyatomic molecules has been carried on since 1940 by the IIT physics department under direction of Professor Forrest F. Cleveland. Numerous grants from private and government sources have financed the program.

One of the major discoveries yielded by past research is the fact that no two molecules act alike in the way they absorb and scatter light, Dr. Cleveland reported. This knowledge, he said, has provided an accurate means of identifying molecules and their structures, just as discovery years ago of the fact that fingerprints are dissimilar led to a method of identifying human beings.

Another contribution of IIT's spectra study of molecules that has proved particularly useful to the chemical and refridgeration industries, Dr. Cleveland said, is development of a method for obtaining the thermodynamic properties of molecules.

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OR RELEASE: Wednesday, December 6, at Noon

San Diego -- Long range plans to effect sophistication of a method of automatically controlling machine tools were revealed in a press conference here today by a spokesman of the Armour Research Foundation of Illinois Institute of Technology. The Chicago research organization was earlier this week named by the Aerospace Industries Association (AIA) to direct the nationwide activities of their Automatically Programmed Tools (APT) program.

According to Dr. Shizuo Hori, ARF will undertake a research and development effort toward the continued application and extension of the APT system, which was jointly developed by Massachusetts Institute of Technology and AIA member companies. The APT system uses a computer to translate simple English-like statements into a set of punched tape instructions which direct numerically controlled machines in cutting metal parts.

Among the ARF plans Hori outlined for the program were:

--VALIDATION AND MAINTENANCE--The system will be exercised and debugged by ARF, since there is no theoretical way to prove its completeness, consistency, unambiguity, and optimality of computation efficiency. Also in the validation process, experienced participating organizations will undertake field trials, during which ARF program staff members will participate in the activities at various participator plants.

A continuous maintenance effort by Armour is planned, because complete system validation is not possible, and system faults will continue to arise. The staff will diagnose difficulties, standard system revisions will be made, and the information will be released to all participating organizations.

--DOCUMENTATION AND TRAINING--New industries who wish to use the APT system will be trained by ARF through 1) an indoctrination course which will prepare the new participator to understand and use documentation and 2) a systems manual which will provide information for operation and also will contain data on troubleshooting.

--DEVELOPMENT--High priority system extension will be immediately worked upon. Many manufacturing plants are using new five-axis machines which increases tool movement by two directions, and APT will be extended for full capability in this area.

The second development task is the standardization of post processors in modularized form. A post processor may be thought of as an "adaptor" which enables coupling the APT system to the particular machine tool-controller combination, taking into account the unique characteristics of each particular combination. In the past, the practice has been to provide a different post processor for each machine tool-controller combination. The modularized post processor would allow any machine tool module to be combined with any control system module. This would

result in availability of a wider selection of controllers and machine tools for use with APT, and would substantially decrease the total costs of post processor programming.

A third development task, already begun, calls for basic extensions to be added to APT's vocabulary. These additions would enable automatic programming for large surface definitions. Examples are common shapes for aircraft, such as the design of fuselage.

--RESEARCH--Although specific research tasks have not yet been formulated, Dr. Hori pointed out the type of new developments which could be made possible by use of the APT system. APT allows man to communicate with machines "naturally"; man communicates with machine in the same way that man communicates with man. Now man can conceive and symbolically describe actions which he would find difficult or impossible to execute by direct control of tools which were primarily designed as extensions of human motor functions. Therefore, because machines are not limited in flexibility of function due to human psychomotor response limitations, new machine tools can be designed. A machine could be designed to not only have the capability of simultaneous, multiple functions, such as cutting, treating, and moving, but also the flexibility of following a variety of different commands on successive runs.

Another area for possible extension would be increasing the APT system efficiency by including certain information in

storage, such as material characteristics, and also sensing other quantities at the cutter or material for such things as cutter deflection, radial torque, and interface temperatures. The feedback information would be inserted into APT by the human operator, or it may be inserted automatically into the controller, so that automatic compensation for changing conditions would take place. Hori pointed out that one of the reasons why language communication between humans is so efficient is that not everything has to be specifically articulated. Storing information and using feedback in APT would parallel man's communications, in which much of the unsaid but implied relevant facts of the external words are available in storage (memory) or are determined through our senses. Some benefits that could accrue from this approach would be automatic feed rate and spindle speed settings, compensation for cutter wear, higher dimensional accuracies, and prevention of machine damage.

Also possible would be extension of the APT vocabulary, which has been developed with specific orientation towards the part programmer, so that it also can be used by the designer. Generation of the symbolic commands by the designer would eliminate need for preparation and reading of blueprints, with consequent savings in time.

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December 7, 1961

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OR RELEASE: IMMEDIATE

CHICAGO, ILL.--The appointment of Archibald Mc Kinlay, Jr. as public relations director of Technology Center was announced today by Robert E. Nelson, institutional development vice-president of the Illinois Institute of Technology.

Mc Kinlay had been serving as public relations manager of the Armour Research Foundation of Illinois Institute of Technology for the past year.

In the new position, Mc Kinlay, in addition to remaining as head of the Foundation effort, now assumes overall public relations responsibility for the Technology Center complex, including Illinois Institute of Technology and the Institute of Gas Technology.

Prior to joining the Foundation, he was public relations manager for Calumet and Hecla, Inc., Chicago. Before that he served in a public relations capacity for the General Electric Company in Schnectady, N. Y., Erie, Pa., and Los Angeles, Cal.

A native of East Chicago, Ind., Mc Kinlay is a graduate of Indiana University and a member of the Public Relations Society of America. He and his family reside in Long Beach, Indiana.

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OR RELEASE:

IMMEDIATE

Friday, Dec. 8

CHICAGO, ILL., -- Improved protective football equipment which could lower the number of disabling head and neck injuries will be designed by the Armour Research Foundation of Illinois Institute of Technology in a study sponsored by the Brunswick Foundation, it was announced here today.

Armour Research Foundation, announcing initiation of the comprehensive project, said that the advanced program will consist of four phases, at the conclusion of which prototype equipment will be tested and compared with gear now in use.

Under the first phase, Armour will compile and study existing information to establish what performance protective headgear must achieve to be effective. Data will be obtained through medical records of specific causes of major football injuries; interviews will be held with football officials, coaches, and players; and a study will be made of government reports covering development of protective headgear for military personnel such as astronauts, pilots, and tank drivers.

Henry M. Pernini, senior design engineer for ARF, will direct the program. "Before we can begin to design equipment," Pernini said, "we must find exactly how much motion and impact the head and neck can tolerate. Our studies should be able to tell us specifically what degree of protection must be

afforded to prevent injury, and yet will not result in an uncomfortable protective device which will hamper the player in executing normal manuevers."

Outlining some equipment changes he thought might come about, Pernini said, "The apparent low incidence of head injuries, where resilient material has been used in conjunction with rigid or semi-rigid helmet shells, may suggest some inherent advantage to the more resilient construction.

"It may be advisable to initiate work on the development of a composite helmet structure made to have greater inherent resilience. Such a composite may result in an inner and outer plastic shell of lighter gage than the current plastic headgear, to be filled with an expanded resilient foam material."

Armour Research Foundation in the past has conducted a large amount of related human factors research for several U. S. military agencies.

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R RELEASE:

IMMEDIATE

Friday, December 8

CHICAGO, ILL., -- Lester Armour, vice chairman of the Harris Trust and Savings Bank, has been elected chairman of the Board of Trustees of Illinois Institute of Technology, succeeding James D. Cunningham, who is retiring after holding the post for 30 years, it was announced today by Dr. John T. Rettaliata, IIT president. Cunningham is also past president and chairman of Republic Flow Meters Co.

Armour's many years of service to the education of youth began on April 13, 1921, when he was appointed a board member of Armour Institute of Technology, IIT's predecessor. On October 21, 1957, he was named vice-chairman of the Illinois Tech Board of Trustees.

Born in Chicago in 1895, Lester Armour graduated from Yale University in 1918, and joined Armour & Co. In 1937 he became a director of the City National Bank and Trust Co. in Chicago. He was elected a senior vice president of that bank in 1946. Since 1948, he has served as chairman of the board of the Chicago National Bank, and upon consummation of its merger in October, 1960, with Harris Bank, he became vice chairman of the Board of Harris Trust and Savings Bank. Armour is also a director of American Car Co., Pure Oil Co., U. S. Leasing Corp., and the Zonolite Corp.

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Also newly named to the board are Maurus T. Goetz, president of Teletype Corp., Joseph B. Lanterman, president of American Steel Foundries, and Remick McDowell, chairman and chief executive of the Peoples Gas Light and Coke Co.

Goetz, a 1927 electrical engineering graduate of IIT, was elected alumni representative on the board. He has been with Teletype since 1929, working as development engineer, chief of research and development, superintendent of product development, and as vice president of the Typesetter Corp., a subsidiary company.

A 1936 graduate of the University of Illinois, Lanterman joined ASF that same year as a trainee. He has held posts in the company as assistant to the controller, assistant controller, controller, vice president, president, and subsequently director. He is also director of seven ASF subsidiaries, International Harvester, and director of the Chicago Chapter of the American Red Cross. Lanterman is also active in a number of civic organizations including the Illinois Chamber of Commerce, Mayor Daley's Civic Committee for World Refugees, and the 1961 Business-Education Advisory Committee of the Chicago Public Schools Student Science Fair.

Born in Chicago in 1909, McDowell has been associated with Peoples Gas for the past 21 years and has been an officer of the company since 1942, when he was elected assistant secretary. He is a director of the First National Bank of Chicago, director and vice president of the Chicago and Illinois Western Railroad,

-more-

and director of the Chicago Association of Commerce and Industry. He was also recently elected to the Board of Trustees of the Institute of International Education and is chairman of its Midwest Advisory Committee.

Also elected officers of the Board of Trustees were Raymond J. Koch as secretary, and James J. Ritterskamp, Jr., as treasurer.

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OR RELEASE:

IMMEDIATE

December 11, 1961

CHICAGO, ILL.--Over 11,000 high school students from some 100 public, private, and parochial schools in Chicago and suburban communities, are expected to take part in the 12th annual Chicagoland High School Drafting Competition sponsored by the technical drawing department of Illinois Institute of Technology.

More than 100 prizes and awards, consisting of professional drafting and engineering equipment are being offered in addition to two one-year scholarships to Illinois Tech. Any high school student enrolled in a drafting course in any Chicago or suburban high school is eligible.

Students entering the competition are assigned a drafting problem which conforms as closely as possible to their regularly scheduled classroom projects, according to the competition's director, John T. Dygdon, IIT assistant professor of technical drawing. In this way, he said, no additional burden is placed upon either students or teachers.

Winning drawings will be selected on the basis of correctness of solution and drawing quality by a group of judges from both industry and engineering colleges. Awards will be presented to winners at an honors assembly on the Illinois Tech campus next spring.

-more-

Sanctioned by the Chicago Board of Education and the Illinois High School Association, the contest affords means for recognition of students of outstanding ability, and also stimulates interest in the fields of drafting and engineering.

The technical drawing department of IIT has sponsored the drafting competition for the past 12 years. Starting in 1950, entry in the competition was limited to students in the Chicago public high schools, but as the competition progressed, more students were allowed to enter.

The competition is divided into six divisions. Division I is primarily intended for freshmen students enrolled in an introductory drafting course. Division II is open to second term freshmen or first term sophomores enrolled in an intermediate drafting course. Division III is open to all students enrolled in an introductory course in machine drafting. Division IV is open to all students enrolled in an introductory course in architectural drafting. Division V is for junior or senior students enrolled in an advance machine drafting course, and Division VI is for junior or senior students enrolled in an advanced architectural drafting course.

Students or teachers who wish to obtain additional information can reach contest headquarters by calling CAlumet 5-9600, Ext. 830.

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FOR RELEASE: IMMEDIATE

December 11, 1961

CHICAGO, ILL.--James Dalton Cunningham, renowned Chicago business civic leader, will be honored at a formal dinner Tuesday evening, Dec. 12, upon his retirement as Chairman of the Board of Trustees of Illinois Institute of Technology for the past thirty years.

At the dinner, which is being held at Grover Hermann Hall on the school's campus, Cunningham will be feted by his associates and friends "for distinguished leadership in the advancement of technological education, and unselfish leadership in civic affairs," according to Dr. John T. Rettaliata, IIT president.

Past-president and now Chairman of the Board of Republic Flow Meters Co., Cunningham began his tenure at the Institute in 1932, while it was still known as Armour Institute of Technology.

Cunningham is credited with bringing about the merger, in 1940, of the Armour Institute of Technology and the Lewis Institute to form Illinois Tech. Under his guidance more than thirty modern buildings have been erected on the IIT campus in a cultural complex on Chicago's south central area, which is today known as Technology Center.

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In addition to IIT, Technology Center today consists of the Armour Research Foundation, Institute of Gas Technology and the Association of American Railroads.

A resident of Winnetka, Cunningham has served on the Board of Directors for the Commonwealth Edison Co., Allis-Chalmers Mfg. Co., Lake Shore National Bank, Baltimore and Ohio Railroad, Autogas Co., Belden Mfg. Co., and Lumbermen's Mutual Casualty Co.

He has served as Board of members of the Presbyterian Hospital of Chicago and the Blue Cross Plan, and was chairman of the Cook County Chapter for Infantile Paralysis.

As president of the Illinois Manufacturers Association, Cunningham spearheaded the drive which resulted in the Illinois Waterway from Chicago to Peoria, and set the stage for the St. Lawrence seaway some years later.

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FOR RELEASE: IMMEDIATE

December 13, 1961

CHICAGO, ILL., -- Development of a low-cost, lightweight ceramic building material from fly ash, an abundant waste substance with limited previous commercial value, was announced today by Armour Research Foundation of the Illinois Institute of Technology.

Fly ash is the gray, dusty ash produced by coal burning furnaces. About 10 million tons a year are produced in the United States, much of it by power plants burning coal to generate electricity.

Trapping fly ash to prevent it from soaring into the air and blanketing surrounding areas has been a costly problem for furnace operators. Gradual improvements in containing the waste has brought their problem down to earth. But having collected the fly ash, they must get rid of it. While utilities have developed some markets for fly ash, large quantities must be disposed of at considerable expense.

Two ARF ceramics researchers, J. Scott Griffith and Joseph T. Dusek, working with an engineer of Commonwealth Edison, Chicago utility, have developed a way to mix fly ash, clay, water and a foaming agent to produce a lightweight, fine-grained building material. They say their new product is fire proof, impervious

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to vermin, has good acoustical and insulative properties, can be easily cut, nailed or fastened with adhesives, and will accept paint or a ceramic glaze.

ARF personnel now are conducting a survey of possible uses for their new material. They believe it has potential value as acoustical tile, insulating material, roof decking, backup for brick veneer, construction, and lightweight partitions. If glazed, it could provide colorful exterior walls.

As sponsor of the research project, Commonwealth Edison does not seek patent rights on the fly ash material process, choosing instead to make it public and available to anyone who wants to explore its commercial applications.

The ARF developers claim production requirements for fly ash units are compatible to modern brick manufacturing equipment and that since the ingredients are so cheap, the only cost consideration would be those of the manufacturing process.

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OR RELEASE:
AM PAPERS
Friday, Dec. 15, 1961

$50 MILLION REDEVELOPMENT ANNOUNCED BY ILLINOIS INSTITUTE OF TECHNOLOGY

CHICAGO, ILL., Dec. 13--Plans for a $50 million forty-acre Research Park to be built in Chicago's central south area were revealed today by the Illinois Institute of Technology.

Developed for the location of industrial, scientific and engineering research facilities, plans call for construction to begin in the fall of 1962, according to Dr. John T. Rettaliata, president of Illinois Tech.

Detailed plans for the project are being developed by IIT in association with Draper & Kramer, Chicago redevelopment specialists, known for their development of many projects in the area including the Lake Meadows, Oakbrook Terrace, and Old Orchard shopping centers, and the Prairie Shores Apartments.

In making the announcement, Rettaliata said that the new IIT Research Park will be located next to the present Technology Center, thus giving Chicago and the Midwest one of the most formidable concentrations of scientific technology in the nation. The new center will be bounded by 35th St. on the north, Michigan Ave. on the east, 39th St. on the south, and by State St. on the west.

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In addition to the Illinois Institute of Technology, the Center consists of the Armour Research Foundation, the Institute of Gas Technology, the Association of American Railroads, and the John Crerar Library.

Plans call for the development of IIT Research Park in five parts--eight acres at a time--with a total of 1,400,000 sq. ft. of floor space upon completion, according to Rettaliata.

IIT Research Park is part of the City of Chicago's overall plan for the redevelopment of the Central South Area.

Under the plan, IIT Research Park will house research laboratories of private industries and other scientific and engineering organizations in buildings acquired through lease arrangements with the Illinois Institute of Technology, Rettaliata explained.

Commenting on the significance of IIT Research Park, Rettaliata referred to the results of a recent Armour Research Foundation study on research in the midwest. The survey showed that such considerations as climate and geographical locations were secondary to the desire for laboratory locations easily accessible to high quality educational, housing, and transportation facilities.

The location of research establishments in IIT Research Park meets these prime requirements, according to Rettaliata.

The Park's proximity to the Illinois Institute of Technology gives personnel of the laboratories the opportunity of future professional development at a leading science and engineering

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institution which has a long heritage of service to industry.

With modern housing already available with the facilities of the Prairie Shores Apartments, redevelopment plans call for the construction of additional housing in the area.

The completion of the South Expressway two blocks west of IIT Research Park will provide convenient access by automobile and by public transportation with rapid express trains running along the median of the new highway.

Being located within a prime cultural center, IIT Research Park personnel will have the opportunity of cross fertilization of scientific thinking, Rettaliata went on to say. With the John Crerar Library they will have access to one of the most complete scientific, technical, and medical reference facilities in the world. Also, Technology Center-sponsored scientific conferences and seminars, attracting leaders of government and industry from all over the world, will enhance the communication of new scientific developments.

And with the increasing cost of research facilities and equipment, the facilities of the Armour Research Foundation, such as a 100,000 watt nuclear reactor, Univac 1105 high-speed digital computer, 1,000-ton extrusion press, soil mechanics laboratory, microprobe analyzer, environmental test chamber, will be made available to establishments in IIT Research Park.

"The location and the entire concept of IIT Research Park have been planned to provide a scientific atmosphere where necessary facilities and services are available to industries carrying on their own research and development programs," Rettaliata said.

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FOR RELEASE: IMMEDIATE

December 15, 1961

CHICAGO, ILL., -- Investors are keeping abreast of scientific developments in industry through a unique service, being offered by Armour Research Foundation of Illinois Institute of Technology.

Called the Investor's Techno-Economic Research Service, it is providing many leading U. S. investment houses with confidential reports on scientific progress.

The reports are used by financial analysts in judging the future trends of securities for their clients, thereby supplementing traditional methods of market analysis, which were based on the financial history, general management, and growth potential of a company.

Subscribers to the service are given private, confidential counseling on a priority basis. Once a study is requested by an investment house, the results of the study become the sole property of the sponsor, who may pass the information on to his clients.

Any question regarding the technological capabilities of an area, industry or particular company are processed through a staff of 650 scientists, engineers and business economists at the Foundation, whose work in all fields of fundamental research

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provide a sound basis for technological analysis. Information gathered from these sources is compiled and presented to the analyst in the form of a written evaluation.

Another unique feature of the service is that it provides information to a select number of investment houses (no more than 20), treating the needs of each individually.

Current subscribers to the service include: Bacon, Whipple and Company; First Capital Corporation; William Blair Company; Morgan Guarantee; Harris, Upham and Company; Banker's Trust; Smith Barney; Kidder Peabody; Walston; Empire Trust; and Sherson Hammil and Company, among others.

Some areas that have been studied since the service began last April include:

- Evaluations of important competitive factors and changes in a given industry.
- Evaluations of the state-of-the-art and commercial possibilities of new developments, products or processes.
- Determination of the marketing and product requirements for successful entry of a company into a given field.
- Evaluations of a company's marketing methods, production facilities and other competitive factors.
- Determination of unusual qualitative factors in an investment situation.

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In addition to the unique features of the service, a quick "call-in" reference service is included, which provides answers to spot questions on a wide range of topics. Such topics might include the names of companies that manufacture certain types of equipment, the names of products or equipment that are showing the greatest sales growth in a given industry, and information regarding the best sources to check on the structure of a given industry.

Because it is difficult, if not impossible, for an investor or analyst to be aware of all scientific developments that could influence his decision, a special report is prepared bi-monthly. The report evaluates and discusses technological and economic trends and their possible importance to the investment decision.

To keep all subscribers aware of general changes in technology and their economic implications, a meeting is held at the Foundation twice each year. At the meetings, senior personnel of the Foundation's technical and business research divisions spot-light major trends in science and provide a perspective of likely future trends.

The total cost of the service is $5,000 per year for each client, covering fees for all points of the program.

George Philips, assistant director of the Techno-Economics Research and Management Division cited a number of examples of advantages gained in the service.

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"One case study involved an electronics firm that announced the development of a new process which caused the value of the company's stock to quadruple", he said.

"At the request of an investment house, we were called in to provide an evaluation of the technical capabilities of the process, and to give an opinion of the future usefullness of the process. A summary report was presented to the client, which indicated the process would soon be outmoded. Within two months, according to predicitions of the survey, the value of the company's stock returned to its original price", Philips said.

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FOR RELEASE:

Immediate

Dr. C. Fred Gurnham has been appointed to the position of Professor of Civil Engineering and Chemical Engineering at Illinois Institute of Technology, effective February 1, 1962, it was announced recently by Elmer I. Fiesenheiser, Director of the Civil Engineering Department. Professor Gurnham will be responsible for all work in sanitary engineering, including undergraduate, graduate, and research. He will replace Dr. Linvil G. Rich who is now Dean of Engineering at Clemson College, South Carolina.

Dr. Gurnham has taught at Pratt Institute, Brooklyn, New York. He was professor and chairman of the Department of Chemical Engineering at Tufts University from 1949 to 1952, leaving there to accept a corresponding position at Michigan State University, where he remained until recently.

Yale University and New York University provided Dr. Gurnham's formal engineering education. He holds advanced degrees from the latter, as well as a distinguished alumnus citation awarded in 1955.

Dr. Gurnham has had several years of full-time industrial experience, as well as industrial consulting work. He has written a textbook and many technical articles, and has served in editorial capacities to several journals. He is a licensed professional engineer in New York and other states.

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Professor Gurnham is currently chairman of the American Institute of Chemical Engineers' Pollution Control Engineering Committee, and is a member of many other professional organizations and committees, including advisory groups to the federal government. He and his family will move to the Chicago area soon, from their present residence in East Lansing, Michigan.

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OR RELEASE: IMMEDIATE

December 19, 1961

CHICAGO, ILL.--An increasing number of fire and electrical hazards in the home during the Christmas holidays are resulting from the development of new toys, gadgets, and decorations, according to the fire protection engineering department of Illinois Institute of Technology.

In addition to the traditional danger, the natural Christmas tree with faulty wiring or lights in contact with it, the trend toward more and bigger electrically powered toys introduces a new potential source of fire ignition, according to professor Gerald L. Maatman, director of the IIT fire protection department. He advised that special care be taken to ensure that electric trains, racing car sets and other electrically run toys are not operated in close proximity to trees or flammable decorations.

METALLIC CHRISTMAS TREES CAN BE "LIVE WIRES"

The ever-increasing use of metallic artificial Christmas trees eliminates the obvious fire hazards connected with natural trees, Maatman said. "However," he emphasized, "This innocent looking yule decoration can become a 'live wire' if a voltage leak occurs from a faulty light cord, with serious consequences for any person simultaneously touching the tree and some other grounded conductor such as a radiator or metal lamp. Therefore," he said, "all wiring should be carefully examined before use."

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OUTDOOR LIGHTING HAZARDS

Another problem which has arisen in recent years, he added, is caused by the enormous increase in elaborate home outdoor lighting displays. Maatman pointed out that these displays usually involve a large number of outdoor lights and numerous spotlights--and said that extreme care must be taken to use wiring and lights approved by Underwriters Laboratories for outdoor use, in addition to being sure that they are not connected to a house circuit which is not already loaded to capacity.

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December 20, 1961

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R RELEASE: IMMEDIATE

SHARP RISE IN NOVEMBER DUSTFALL CITED

CHICAGO, ILL., -- November dustfall averages for Chicago rose sharply for the third straight month, according to research engineer Samuel Radner at Armour Research Foundation of Illinois Institute of Technology.

Reporting a total of 50.7 tons of dustfall per square mile over the city, Radner said this average was 15% higher than readings taken in October of 44.1 tons per square mile, and 27% higher than November 1960 readings of 40.0 tons per square mile.

The highest readings for this November were obtained at the two Loop dust sampling stations, with measurements of 98.3 and 90.5 tons per square mile.

The low readings for November were taken at the west 99th Street station (21.5 tons) and the Pratt Avenue station (28.3 tons). Both low readings indicated a rise of 6.2 and 13.7 tons respectively, over readings taken in November 1960, however.

TOTAL SOUTH SIDE AVERAGE DOWN.

Radner said that the average of thirteen south side stations was 88% of the city total this November as compared to 96% of the total city average for November of last year.

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Add 1 - November dustfall

CHICAGO TOTAL DUSTFALL
Trends by Station
November, 1961
Tons Per Square Mile Per Month

Sta. No.	Station Address	Readings in October, 1961	Nov. 1961	Nov. 1960
1	State and Adams	67.3	98.3	59.0
2	33 N. La Salle	52.9	90.5	78.1
	Loop Average	60.1	94.4	68.6
3	2135 S. Michigan	48.0	57.8	57.7
4	825 E. 44th	----	47.5	38.2
5	1362 E. 59th	35.2	40.5	34.1
6	7351 Stony Island	49.0	71.1	47.0
7	67 W. 113th Pl.	37.8	32.2	23.7
8	8858 Marquette	62.5	54.8	30.5
9	3105 W. 63rd	36.0	49.4	34.3
10	6140 S. Melvina	41.4	38.9	44.4
11	7559 Eggleston	33.1	29.8	21.8
12	1620 W. 99th	36.5	21.5	15.3
13	3608 Ogden	48.2	34.6	31.0
14	1500 W. Monroe	53.0	61.0	53.9
15	5055 Fulton	44.9	55.5	47.4
16	2940 W. Cortland	54.9	62.9	42.3
17	5602 Belden	30.0	31.1	20.1
18	3944 N. Sawyer	47.7	48.9	45.0
19	7350 Pratt	28.5	28.3	14.6
20	54 W. Hubbard	37.2	66.0	58.8
21	551 Grant Pl.	46.2	59.9	42.2
22	3532 Sheffield	----	88.0	88.8
23	1622 Pratt Blvd.	28.6	51.1	24.4
25	2240 W. 37th	67.0	41.3	36.9
Average (incl Loop average)		44.1	50.7	40.0

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FOR RELEASE: IMMEDIATE

December 22, 1961

CHICAGO, ILL., -- Illinois Institute of Technology's cagers, undefeated with a 4-0 record this season, will defend their Rochester Tech Holiday Tournament title this year, Dec. 28-30, in Rochester, N.Y.

The Techawks will meet Rochester in the opening round of play, Dec. 28, at 9 p.m.

IIT last year took the tourney title by defeating Pratt Institute, Newark Engineering, and nationally-ranked West Virginia Tech, which had averaged over 105 points a game for six years until meeting Illinois Tech.

Comprising the IIT nucleus of strength are forward Dan Benevich and guard John Bagley. Veteran letterman Benevich, 6'4" and 200 pounds, is averaging 26.7 points a game this season, as well as being the team's top rebounder.

Named to the RIT All-Tournament Team last year, Bagley, 6'2", was also last season ranked ninth nationally in field goals in the NCAA college statistics, finishing the season with 59 percent in field goals.

Rounding out the starting five are veterans Tom Seibert, 6'4" center, 6'3" Jack Waeltz at guard, and newcomer Nick Mathys, 6'3".

Besides Rochester Tech and IIT, other teams in the tourney are Lawrence Tech (Detroit), Indiana Tech (Fort Wayne), Pratt

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Institute (N.Y.), West Virginia Tech (Montgomery), Newark College of Engineering (N.J.), and Brooklyn Polytechnic Institute (N.Y.).

IIT's four wins this season were over University of Illinois - Chicago, Chicago Teachers' College, St. Ambrose College, and Lewis College.

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FOR RELEASE:
IMMEDIATE

December 28, 1961

CHICAGO, ILL., -- Basic research on shell structures -- shells are the thin, curved structures common in modern architecture and especially important in the design of missile and rocket housings -- will be conducted at Illinois Institute of Technology here over the next three years.

Dr. Franklin Essenburg, professor of mechanics and research project director, today said a $63,500 grant from the National Science Foundation to the Illinois Tech Mechanics Department will finance the study.

Graduate students will participate in the basic research program. It will include investigation of the elasticity of materials and elementary structural shapes of shells and also plates. Architecturally, plates are thin, flat structures.

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